United States Court of Appeals

for the

District of Columbia Circuit

TRANSCRIPT OF RECORD

No. 9398

BRIEF FOR APPELLANT ~~AND JOINT APPENDIX~~

United States Court of Appeals

District of Columbia

Arthur T. Bleas 624
Appellant

v.

Casper W. Ooms, Commissioner of Patents,
Appellee

Appeal from the District Court of the United States for the District of Columbia

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United States Court of Appeals
for the District of Columbia
FILED DEC 6 1946
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Lester B. Clark,
Suite 2200 Gulf Bldg.,
Houston 2, Texas.

Emmett Leo Sheehan,
Suite 223, Bond Bldg.,
Washington 5, D. C.,
Attorneys for Appellant

Wilson - Epes Printing Co. - RE 6003 - Washington 1, D. C.

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United States Court of Appeals

DISTRICT OF COLUMBIA

No. 9398

ARTHUR T. BLEASE,
Appellant

v.

CASPER W. OOMS, COMMISSIONER OF PATENTS,
Appellee

Appeal from the District Court of the United States for the District of Columbia

BRIEF FOR THE APPELLANT

JURISDICTIONAL STATEMENT

Suit is brought by Arthur T. Blease of Corpus Christi, Texas, as Appellant in his own right. This appeal is the result of the filing of an application for patent, Appellant's Exhiit 14, (Joint App. p. 46-53,) by the Appellant on April 26, 1941 for his invention in a Direct Printing Process for Rotary Presses, Serial Number 390,578. All of the claims in such application were refused by the Commissioner of Patents, Appellee herein.

From such refusal, the Appellant appealed to the Board of Appeals, and the Board of Appeals sustained the rejection of the Primary Examiner in a decision, (Joint App. pp. 71-72.) The Appellant then filed a bill of complaint in the United States District Court for the District of Columbia under the Federal Laws of the United States as provided by Revised Statute, Section 4915, (Joint App. pp. 2-7). The Appellee herein filed an answer thereto, (Joint App. pp. 8-9) upon which issue was joined and trial was had. The Honorable District Judge rendered an informal memorandum sustaining the Board of Appeals and dismissing the complaint (Joint App. p. 11). A statement of the Findings of Fact and Conclusions of Law were approved (Joint App. pp. 11-13), and judgment rendered thereon. From such decision of the District Court of the Appellant filed a notice of appeal and a statemet of points (Joint App. pp. 14-15) within the period prescribed by Rule 10 of this Court. The record has been prepared, and this appeal comes before this Court for hearing.

STATEMENT OF THE CASE

Arthur T. Blease, an individual residing at Corpus Christi, Texas, conceived a new and useful invention in a Direct Printing Process for Rotary Presses, and filed an application for United States Letters Patent thereon on April 26, 1941, Serial Number 390,578. Such application was duly prosecuted before the Primary Examiner of the Patent Office, and the claims thereof finally refused. Appeal was taken to the Board of Appeals of the Patent Office, and such Board of Appeals rendered a decision affirming the rejection of the Primary Examiner (Joint App. pp. 71-72). From this decision the Appellant filed a bill of complaint in the United States District Court for the District of Columbia, trial was had, and the decisions of the Patent Office sustained, whereupon the Appellant appeals to this Court.

The invention relates to a Direct Printing Process for Rotary Presses wherein the matrix, which is usually semi-cylindrical in form, is used in the casting of the lead printing plate; and is particularly directed to the creation of this matrix in such a manner that a space is provided thereon to receive a suitable spacer which in turn will create a recess in the lead type plate which is cast from the matrix so that an original engraving may be attached directly to the lead plate. The lead plate is then placed in the rotary printing press, the plate is rotated by the press, and direct printing on the paper accomplished. The lead plate has adhesively affixed to it the engraving which is of such thin material that it has been curved to conform to the curvature of the lead plate, and firmly affixed thereto with an adhesive so that it withstands the centrifugal force of the rotating plate and in this manner a direct printing is had from the engraving. As a result of such direct printing, it is possible to use engravings which have been made with the silk screen process, approximating 85 to 100 lines per inch so as to give a much clearer print than is possible to obtain with the engravings generally used in newspaper photographic printing, which approximate 65 lines per inch.

The Appellant appears to be the first to utilize such a procedure for adhesively attaching the thin engraving directly upon the lead plate so as to avoid the creation in the lead plate of the engraving upon a much coarser basis than is possible by the Appellant's direct printing process.

STATUTES INVOLVED

The applicable statutes are as follows:—

REVISED STATUTES, Title LX:
Act of Mar. 2, 1927, 44 Stat. L. 1335
Act of May 2, 1929, 45 Stat. L. 1476

"Sec. 4915 (U.S.C. title 35, sec. 63) Whenever a patent on application is refused by the Board of Appeals or whenever an applicant is dissatisfied with the decision of the board of interference examiners, the applicant, unless appeal has been taken to the United States Court of Customs and Patent Appeals and such appeal is pending or has been decided, in which case no action may be brought under this section, may have remedy by bill in equity, if filed within six months after such refusal or decision; and the court having cognizance thereof, on notice to adverse parties and other due proceedings had, may adjudge that such applicant is entitled, according to law, to receive a patent for his invention, as specified in his claim or for any part thereof, as the facts in the case may appear. And such adjudication, if it be in favor of the right of the applicant, shall authorize the commissioner to issue such patent on the applicant filing in the Patent Office a copy of the adjudication and otherwise complying with the requirements of law. In all cases where there is no opposing party a copy of the bill shall be served on the commissioner; and all the expenses of the proceedings shall be paid by the applicant, whether the final decision is in his favor or not. In all suits brought hereunder where there are adverse parties the record in the Patent Office shall be admitted in whole or in part, on motion of either party, subject to such terms and conditions as to costs, expenses, and the further cross-examination of the witnesses as the court may impose, without prejudice, however, to the right of the parties to take further testimony. The testimony and exhibits, or parts thereof, of the record in the Patent Office when admitted shall have the same force and effect as if originally taken and produced in the suit."

STATEMENT OF POINTS

The Appellant has assigned errors and a Statement of Points thereof is to be found (Joint App. pp. 14-15), which may be summarized as follows:—

1

The Court erred in holding that the prior patent to Horgan, No. 620,133, embodies a disclosure essentially the same as that of the Appellant.

2

The Court erred in holding that the prior patents to McGovern, Sands, Buschmann, Just, and Lowe, anticipate claims 1 to 4 inclusive, here on appeal.

3

The Court erred in holding that the thickness of the plate in the Appellant's process is a mere matter of choice.

4

The Court erred in holding that it was a mere matter of choice to attach the engraving plate by solder rather than by adhesive.

5

The Court erred in combining the Horgan and Lowe disclosures in an effort to concoct an anticipation.

6

The Court erred in holding that the Appellant's claims 1 to 4, inclusive, did not involve invention, did not define a patentable invention, and that the Appellant was not entitled to a patent thereon on the bill of complaint filed.

7

The Court erred in failing to authorize the issuance of a patent to the Appellant, and in concluding that the bill of complaint as to all claims should be dismissed.

SUMMARY OF THE ARGUMENT

For more than fifty years there has been practically no improvement in the art of printing photographs, cuts, and engravings in the newspaper industry.

As is well known, newspapers are printed on high speed rotary presses where two semi-cylindrical lead plates are affixed to a cylindrical roller, and the web of paper passed between two such rollers to print the paper simultaneously on both sides. These lead plates are made by first setting the type in a flat frame, and clamping it firmly in position. If there are to be any photographs, cuts, or prints, other than type, an engraving is made, usually on a relatively heavy piece of metal. Such engravings are made by a filter process and are formed by lines which are spaced 60 to the inch. Such engraving is placed in the frame along with the type. A matrix of thick coarse paper is then laid over the frame and pressure applied so as to form an imprint of the type and the 60 line engraving in the paper matrix. Considerable of the detail of the engraving is lost in making this transfer to the matrix. The matrix is then curved in a half cylinder, placed in a mold, and the type lead plate formed by pouring molten type metal thereon. Considerable of the detail of the engraving is again lost in transferring from the matrix to the lead plate. There has been no substantial improvement in this process for fifty years or more.

The Appellant Blease is an employee of the Corpus Christi, Texas Caller Times newspaper, and devised the improvement disclosed in his application on appeal, wherein the engraving is made on a very thin flexible sheet of metal. and instead of being a 60 line engraving, it is made much finer so as to give greater detail and may be made with an 85 or 100 line process. The type is put in a frame and clamped in position the same as by the standard process, but instead of placing the engraving in the frame, a blank filler plate is used so as to form a blank recess in the matrix when it is placed against the frame. The matrix is then taken and placed in the mold to receive the lead type metal, but here again another spacer is placed beneath it so as to form a relatively shallow recess in the type metal which is of the same thickness as the metal engraved sheet which is to be used. By properly spacing the matrix in the mold, the lead plate is created with this shallow recess. When the lead plate is completed then the thin flexible engraving plate is adhesively affixed thereto by being curved around to fit the contour of the plate and deposited in the shallow recess. so that the surface of the engraving is in the same circumferential plane as the printing surface of the type which is formed directly in the lead plate. The Appellant experimented for years in working out this procedure. The engraving must be very thin so that it may be flexed to fit the contour of the lead plate, and it must be light in weight so that the centrifugal force of the rotating roller in the press will not throw it off or distort it; and it must be capable of being adhesively held in position.

The Blease process has been adopted by hundreds of newspapers throughout the United States, and the exhibits here of record illustrate the astounding improvement over the old standard practice.

The process results in the very fine detail in the pictures and cuts which has been heretofore impossible to obtain by using the standard process.

The Appellee has presented in all, eight prior patents, each of them showing some detail or other which constituted an increment of the applicant's process. No one or two of the prior patents, when taken together, even remotely suggest the Appellant's process and it is believed that the Appellee has failed utterly to suggest an anticipation.

ARGUMENT

Blease's Method of Printing and Contribution to the Art

At the trial of this case, the Appellee presented Ex. 1-I, (Joint App. pp. 107-108) as the patent application drawpellant in turn presented Exhibits 1 to 14 including his application for patent along with the various other patents and proceedings which have transpired prior to this appeal. (Ex. 1-10, Record on Appeal pp. 153-161A; Ex. 11-12, Record on Appeal pp. 140-141; Ex. 13, (Joint App. pp. 73-83; Ex. 14, Joint App. pp. 45-72.)

In Appellee's Ex. I (Joint App. pp. 107-108), the Appellant's drawings, and Ex. 14, (Joint App. pp. 45-72), the Appellant's file, specification and description, it will be seen that Blease has devised a simple, economical, and exceptionally efficient method of direct newspaper printing of photograph engravings.

Blease has devised a process where the type is set in a usual frame and then a blank space is left in the frame the size of the engraving or cut to be used. The matrix is then formed from the assembled frame. The matrix is a layer of flat paper board set over the frame as seen in Fig. 2 of Appellant's patent application drawings, and then subjected to pressure to impress the matrix 10 seen in Fig. 3 of Ex. I against the type and other matter so that such matrix conforms to the type matter, and blank spaces in the frame.

This matrix thus formed is then pressed in a curved mold 15, seen in Fig. 5 of Ex. I, and is suitably supported by spacer sheets shown at 21 in Fig. 6 of Ex. I. Such spacer sheet holds the matrix material 10 *to a specified distance below the crests* 20 *of the type which are to be used.* The distance of the inside surface 18 as seen in Fig. 6 of Ex. I below the crest 20 of the type, is a distance *equal to the thickness of an engraved plate which is to be later applied.* When the matrix 10 is thus supported, as seen in Fig. 6, then the type metal, a composition of lead, is poured into the mold and this metal is shown at 17 of Fig. 6 in Ex. I as having filled in the impressions of the matrix 10, which were formed by the type and the blank spaces. The type metal 16 thus represents the impressions and spaces of the matrix provided due to the thickness of the matrix 10 and the spacer 21.

This type lead is seen in Fig. 7 (Joint App. p. 108), and has the depressed surface 18 and the type 20 thereof.

Fig. 8 shows the finished plate ready for attachment to the rotary printing press, and illustrates the thin flexible engraving 25 as having been adhesively attached to the surface 18 of the type metal plates 17 in the depressed blank space which has been provided. In the form shown in Fig. 8 of Ex. I, the surface of the engraving 25 and the crest of the type metal 20 are in the *same circumferential surface* so that a smooth and uniform print is provided.

In order to produce the above described rotary printing plate, it was necessary for Appellant to first devise the procedure for spacing the surface 18 of the engraving 25 when the plate was ready for use so that it was in the same surface as the crest 20 of the type. Thus the surface of the blank space or recess 18 had to be formed the desired distance below the crest of the type at 20. To accomplish this it was necessary to use the spacer plates 21 under the matrix when the lead plate was cast so as to support the matrix as seen in Fig. 6 (joint App. p.) in such a manner that the difference in position of the surface 18 and the crests 20 would equal the thickness of the engraving 25. It was then necessary to devise a thin flexible engraving plate which could be quickly and economically constructed by the photographic filter process. Such a thin flexible engraving was necessary because of the fact that in a rotary newspaper printing press, the rollers rotate at high speed. A heavy engraving plate would first throw the type plates *out of balance* and *would require extensive fastening devices* to hold it in place upon the lead plate and in turn *the lead plate would have to have sufficient* strength to retain a heavy engraving plate without deforming the lead of the plate.

Blease devised a procedure for applying a *flat thin flexible engraving sheet to the curved type plate, then curving the thin flexible engraving around the plate and adhesively attaching it in position.* If the engraved sheet were too stiff or thick, the inherent springiness therein would tend to pull the ends loose from the type plate. Blease therefore devised a thin plate approximately twenty-seven (0.027) to thirty thousandths (0.030) of an inch in thickness.

The Patent Office somehow misplaced the original Appellant's Exhibits 1 to 10 inclusive which were on file in the Patent Office with the Blease application, and Counsel have entered into a stipulation (Joint App. p. 9-10) substituting ten exhibits therefor to be used by the Court in lieu thereof. Of these exhibits, Ex. 7 (Record p. 158) shows the matrix as it is actually used with the spacer blocks or cardboard papers 21 attached thereto. From this matrix, Ex. 7, (Record p. 158) the lead type plate is made and such a plate is shown in a photograph of Ex. 10 (Record p. 161-A).

The thin flexible engraving sheets are then applied with adhesive to this lead plate shown in the photograph, Ex.

10, (Record 160-A) and as a result thereof, the lead plate
a photograph of this completed plate is shown as Appel-
with the etchings or engravings attached is produced and
lant's Ex. 6 (Record p. 161).

This lead plate shown in Ex. 6 with the etchings 25 attached is then applied to the rollers of a rotary newspaper printing press. The web of paper is then passed between the rollers and Appellant's Ex. 8 (Record p. 160) is a photograph of the printing press showing one of the plates as it rotates, actually having printed the web.

Appellant's Ex. 9 (Record p. 159) is the actual page which is being printed as seen in the photograph of Ex. 8. (Record p. 160)

It is thought that the foregoing gives the Court a picture of the Blease method, illustrates the simplicity of producing the etchings and the roller ready for printing, and shows the contribution which Blease has made to the art. Appellant's Ex. I, (Record p. 153) is a sheet from the Houston, Texas Press *printed by the usual procedure while* Ex. 11 (Record p. 140) of the Appellant, is a page from the Washington, D. C. Post presented and explained at the trial (Joint App. pp. 17-18).

As distinguished from the usual practices as exemplified by Exhibits 1 (Record p. 153) and 11, (Record p. 140) attention is respectfully directed to the newspaper sheets printed by the process of the invention on appeal as shown by Appellant's Exhibits 2, 3, 4, 5, and 9, (Record pp. 154-157, 159) all of which are pages from the Corpus Christi, Texas Caller Times newspaper, by whom Appellant Blease is employed and which paper is utilizing the Blease invention.

A great many newspapers throughout the country have adopted the Blease process and are utilizing the same, as is clearly apparent from letters of inquiry, ten of which were introduced as Appellant's Ex. 13 (Joint App. pp. 73-83).

By reference to the pages of newspaper printed by the prior process in comparison with the Blease process, the Court undoubtedly will appreciate the *fineness in detail, the casting of shadows,* the *development of profiles, and the depth apparent in the pictures* shown in the newspaper printed by the Blease method. This advantage is accomplished by Blease due to the fact that he has devised a process for preparing the lead type plate so that it will adhesively receive the thin flexible engraving. This is about as short and concise a definition of Blease's contribution as it is possible to make. These advantages in clearness, depth, and detail are obtained because the engraving itself *is used for direct printing upon the web of paper.* There has been no transferring of the detail of the engraving to the matrix and then from the matrix to the lead type as is the usual and standard procedure with thousands of newspapers. Due to this fact, it is possible for Blease to use a photographic filter screen having a mesh of 85 or 100 lines per inch as compared with the usual practice of 60 lines per inch by the usual processes of printing. In the standard procedure the *engraving is used to make the impression in the matrix* and the *matrix in turn is then used to make the impression in the lead type plate.* With Blease, there is *no transfer except by the ink from the engraving to the paper.* The depth, detail, and fineness of the 85 to 100 line engraving is carried direct to the paper. This procedure as a whole constitutes the contribution of Blease to the art. It has been a successful contribution, is being widely used, and it has attracted the attention of the industry, and is being copied extensively.

Prior Practice of Newspaper Printing for the Past Fifty Years

The prior or standard practice, as used prior to the Appellant's invention, has been intimated in the explanation above, but it is briefly this:—

A flat heavy thick plate engraving is used. Such engravings are usually supported on rigid blocks or are of such a thickness that they will be fixed and rigid. Such engravings must be made, usually on thick sheets of metal, and they are then placed in the frame such as the frame of Fig. 1 in Ex. I, along with the type which has been set. The matrix is then laid over *not only the type but also the engraving* and the pressure applied so as to make the impressions in the matrix. The impression of the engraving must be made in the coarse paper matrix.

The engraving must be of such coarseness and the indentions therein of such depth that they will make impressions in the paper matrix. The paper of the matrix is in turn quite coarse and considerable of the detail is lost in this first transfer of the engravings to the matrix. The matrix is then placed in a mold and a lead type metal cast so as to make a single unitary type metal plate. The engraving impressions are thus transferred again, to the type metal and additional detail is lost. It is of course, well known that lead is not a real viscous material when in molten state, and it does not therefore flow into the impressions in the matrix to any substantial depth or detail so that here again is a second transfer from the matrix to the lead metal of the impressions which originally appeared on the engravings.

Here again in the second transfer from the matrix to the lead is a loss of considerable detail so that the final printing direct from the type plate to the web of paper gives an impression which carries *little or no detail,* has *con-*

siderable blur, and for the past *fifty years* it has been the practice to use a 60 *line screen* in transferring the photographs to the engravings because *if a finer screen were used, the points or impressions on the engravings are too fine to be transferred to the matrix* and *then from the matrix to the lead and still carry any impressions other than just a blurred print.* The newspaper industry has therefore used sixty line screen for the past fifty years or more.

The Appellant would like the Court to understand, of course, that 85 and 100 line engravings have been used in the printing industry for many years past. Such engravings made from fine line screens have been used in *flat printing presses* where high speed was not required, and where the engraving was a heavy massive block or in some instances it may have been a thin engraved sheet *supported upon a heavy rigid massive block.*

The procedure used by newspapers has therefore been to make a 60 line engraving, make a matrix from the engraving in flat position, then curve the matrix and cast the type metal thereon to form the lead type plage and the lead type plate was then used to print the paper. There has been no change in this procedure for many years.

Prior Art Relied Upon by the Patent Office

The Patent Office has relied upon eight prior patents for the purpose of refusing the claims to Appellant. Four of these patents were used in the Patent Office, and *four of them* are newly cited by the Solicitor for the first *time before the District Court.*

It is believed that the record in the Patent Office will readily show that no one of the prior patents of record suggest the combination or teach the inventive idea which is recited in the claims of Appellant. It goes without saying, of course, that it is a well established practice in the Patent Office to allow claims to an applicant, unless the general inventive idea can be shown in some one prior patent. Of course, detailed features of the inventive idea may be found in secondary patents and then substituted in the general or basic patents of the idea in an attempt by the Patent Office to concoct an anticipation. In the present situation, however, none of the prior patents suggest any combination which would be feasible or operable insofar as the Blease disclosure is concerned. It is believed that a representative decision of the Patent Office is that by the Board of Appeals in the Patent Office in the case of:—

> *Ex parte Smith,* 51 *U.S.P.Q.* 332, *Patent Office Board of Appeals*
>
> "Prior patents cannot be combined to meet applicant's claims since they teach opposite from applicant and operations of devices disclosed in patents appear to be antagonistic, where there being no teaching how they could be combined so as to obtain conditions called for in claims."

It is also well established that the prior art *should carry some suggestion of the inventive idea* so that it would teach the invention to such an extent that there would be no invention left for the applicant against whom the prior patents are being used. It is not enough to merely anticipate one feature in one patent, another feature in some other patent, and still a third feature in a third patent, because in attempting to concoct a rejection of this sort, the Patent Office is not following what is taught in the prior art but is following what is taught by the applicant and then attempting to piece together an anticipation with the knowledge of what the inventor has already done. It is, of course, easy under circumstances of this sort to say that no invention is involved, that no difficult problem has been solved, and that it was easy to do what the inventor has done. Situations of this sort have been treated on many occasions by the Patent Office and the Courts as well. For instance, a case directly in point is the case of:—

> *In re Deakins,* 96 Fed. (2d) 845, C.C.P.A., 49 O.G. 569.
>
> "We have carefully examined the references for a suggestion of appellant's combination and the new and useful results obtained thereby, but have found none. Of course, if the references are examined in the light of appellant's disclosure, the solution of the problem confronting appellant seems simple. A problem, solved is no longer a problem, and one is prone to overlook the fact that it ever existed. Whether the solution of a problem involves invention, is a matter of opinion."

Another decision which is in point has been handed down by this Court of Appeals in the case of:—

> *Mathieson Alkali Works* v. *Coe* 69 App. D.C. 210 99 F. (2d) 443-447.
>
> "In our view, therefore, the discovery made by the applicants in the case constituted invention. Their process was not taught by the prior art; in fact, it contradicted the teachings of the prior art, and in so doing produced a new and useful result. It met a long standing need of the industry . . . a practical method of bleaching cellulosic material without deteriorating the material itself; and it constituted a marked advance in the art."

The principal prior art patent which appears to be relied upon by the Appellee has been submitted to the Court as the Ex. A, (Joint App. pp. pp. 84) which is the patent to Horgan. This patent to Horgan does not suggest a procedure which is claimed by the Appellant, and would have to be changed, altered, and modified, not in accordance with any suggestions found in the Horgan patent itself, but in accordance with the teaching of the Appellant.

The record contains the testimony of the witness Fenning, (Joint App. pp. 15-40). It may be stated, however, that as seen in Fig. 3 of the Horgan patent, (Joint App. pp. 84-86) he intends to use a *heavy curved engraving plate* which is also seen in Fig. 9 of Horgan, and is at least *half* *the thickness of the lead type plate.* Horgan places this heavy plate in position in a *preformed recess* and then *solders* it in place by applying heat thereto by means of the *gas iron G.* Appellant has found that such a construction is impractical and inoperative for the purpose of the Blease invention. The Horgan patent was *issued in* 1899 and appears to have failed to teach the art any advance whatsoever, because it is not now and has not been used insofar as this Appellant is aware. As a matter of fact, the plate of Horgan appears to be so heavy that it would not stay in position on a rotary press due to the centrifugal force which occurs when the plate is rotated at a high rate of speed as it is in the present day newspaper printing presses.

Horgan was attempting of course, to accomplish somewhat the final result that Blease accomplished. Horgan went at it in one way by affixing the heavy plate in position by soldering it to the type plate. Blease found that such a procedure was unsatisfactory and developed a thin flexible sheet which could be readily affixed to the type plate and was so thin, so flexible, and so light in weight that a suitable adhesive would hold it in place on a high speed rotary newspaper press. The Blease invention has gone into practical and commercial use and has been used by the newspaper where Blease is employed since prior to the filing of the Blease application or for a period of more than five years from the time of this hearing.

The Appellee, realizing that the Horgan patent failed to teach the invention of the applicant and the combination which was disclosed by Appellant, has produced the patent to McGovern, Appellee's Ex. B (Joint App. pp. 87).

McGovern's disclosure is a printing block which is of wood or metal and appears to be a heavy massive block. To this, McGovern affixes a thin metal engraved sheet in flat position. *There is no curving of the thin metal sheet,* there is no disclosure of any rotary press, and apparently it is merely for printing pictures in a flat reciprocity type of press. All that can be said of McGovern is that he discloses a thin engraving.

It is probably flexible, but McGovern does not say so. Neither does he disclose any use of the engraved sheet in flexible position; therefore, the Appellee would not be justified in using the thin sheet of McGovern to be curved, flexed, and fitted on to the rotary press of Horgan because neither Horgan nor McGovern *suggest* such a procedure. Such procedure of curving the thin metal engraving is suggested by Appellant. It is, of course, easy to take the pattern of Appellant and then search around for one suggestion in the Horgan patent, and another suggestion in the McGovern patent, and then excuse such activity by stating that no invention would be involved.

The third patent relied upon by the Appellee is the patent to Lowe, Appellee's Ex. C (Joint App. pp. 89-91). The four claims which Blease has retained for consideration by this Court, namely claims 1, 2, 3, and 4 of his application (Joint App. pp. 3-4) are *method* or *process claims* for the process of executing or creating the printing operation. Blease discloses an arrangement for supporting the matrix by a spacer plate so as to form a recess to receive a thin flexible engraving. Neither Horgan nor McGovern suggest such manufacturing of the matrix or positioning it in such a position, so that the Patent Office realizing the shortcomings of Horgan and McGovern, is attempting to further bolster the first two patents with the disclosure of the patent to Lowe (Joint App. pp. 89-91), Lowe provides a particular kind of spacer block to be used in forming a matrix. Lowe gives no suggestion of affixing an engraving plate in the space which he thus formed, but merely states that he wants to form a blank space. This presumably would be a blank or open space on the newspaper sheet. This is an old and well known procedure. Blease is not even interested in a procedure of this sort, and this is all that Lowe suggests, the provision of a specific type of spacer to be used in forming a matrix.

The fourth patent, Appellee's Ex. D, (Joint App. pp. 92-94) to Sands shows the idea of using a *rubber sheet* instead of a lead type plate, so that the rubber sheet can be made and then affixed to the printing roll in lieu of the lead plate. Of course, this is *another way* of printing. Certainly the present day newspapers could not be printed with *rubber type* sheets and about all that the Patent Office can glean from this Sands patent is that flexible sheets have been used in lieu of lead type plates.

Thus the case made out by the Primary Examiner and the Board of Appeals, and the Appellee herein, utilizes *four patents, Horgan, McGovern, Lowe,* and *Sands.* The Appellee appears to be taking the patent to Horgan as showing the most general arrangement. He is then going to *throw away the thick plate of Horgan* and substitute for it the *thin flat sheet of McGovern.* Neither Horgan nor McGovern suggest how *a recess can be made to provide for* the plate so that the Appellee has searched around and produced the Lowe patent, which shows how a recess can be made. The Appellee still lacks the *idea of a flexible sheet which can be curved around a rotary press,* and a further search unearths the patent to Sands, which shows *a rubber plate.*

What kind of a looking outfit would this be if the procedure of the Appellee were followed? Certainly *there is no pattern set forth in these four patents. No one* of them suggests the features of the other. *No one* of them suggests the procedure for combining the four patents together. Where then did the Examiner, the Board of Appeals, and the Appellee obtain the idea for putting these four patents together? Horgan was granted in *1899*, McGovern in *1907*, Lowe in *1934*, and Sands as late as *1941*. The disclosure in the Blease application, Appellant's Ex. 14, (Joint App. pp. 46-53) here on appeal, is the first disclosure of the process which is *successful and useful*. The process is not even remotely suggested in any one of the four references and the four references must all be *revised, rebuilt* and the Blease procedure *read into them* in order to concoct an anticipation, but even so, the representative idea is lacking even if the Patent Office were able to strip from these four patents a structure capable of being used in practicing the Blease process. The claims on appeal, however, are *process claims, not structure claims,* and the *process is lacking in these four patents.*

In the Appellant's answer before the United States District Court, *four additional patents* were presented for the *first time,* (Joint App. pp. 8-9) not having been previously cited or relied upon while the Blease application was in the Patent Office. These four patents are Upshaw, Ex. E, Buschmann, Ex. F, Rohland, Ex. G, and Just, a British patent, Ex. H (Joint App. p. 106).

These four new patents *add nothing to the four earlier patents* above analyzed, but it might be mentioned that Upshaw permanently curves an engraved plate by passing it through a series of rollers as seen in his Fig. 5 (Joint App. pp. 95-99), and then anchors his plate to a rotary press by *soldering* it in position which process has been found to be entirely unsatisfactory in commercial practice. The Upshaw plate is thus so thick and heavy it must be mechanically curved. Buschmann shows an attempt (Joint App. pp. 100-101) to fix a stereotype plate to the printing cylinder by *vulcanizing rubber* between the cylinder and the plate. This is the lead type plate of the standard practice and is entirely irrelevant. The patent to Rohland

(Joint App. pp. 102) is for a procedure for curving a plate so that it will hold its shape and be capable of being affixed to the cylinder. This has nothing to do with the applicant's claimed invention.

The British patent to Just (Joint App. p. 106) shows an arrangement for providing a tapered opening in a plate for printing textile materials and then inserting therein the etches plate to print the textile material. His arrangement is particularly directed to a tapered opening to wedge the lead plate into position.

Counsel for Appellant is unable to see how any of these four latter patents suggest either the structure of Appellant, or the method which is recited in the claims on appeal.

As a summary, it may be stated that the Appellee is utilizing eight prior patents in attempting to show anticipation. Nowhere has the Patent Office given an anlysis of *how these prior patents anticipate the Blease invention.* That is, nowhere in the record has the Patent Office taken any one of the patents as following the general combination and then pointed out how the structure disclosed and suggested in such basic or primary patent could be replaced by adopting details from the other patents. This it is the duty of the Appellee so to do if the claims of the Appellant are to be refused. The Appellant and the District Judge have been content to say, "Well, here is one patent showing feature (a), another patent showing the feature (b) where (b) is entirely different from (a), and could not be used therewith. Here is a third patent with feature (c), etc.", so on down the line, taking the Appellant's disclosure as a frame work or pattern and then attempting to lay therein these jig saw pieces taken from, all together, eight separate patents. What sort of a procedure is this? If the Patent Office practice as a whole, followed such a procedure, the Appellee might as well close the Patent Office because no more patents would be issued. The anticipation which has been worked up by the Appellee is the invention and conception of the Examiner and cannot be attributed to these prior art patents.

Claims on Appeal

The applicant has dismissed this appeal as to all of the claims in his application except claims 1, 2, 3, and 4. Those claims read as follows:—

Claim 1:

> The method of preparing composite curved stereotype plates including cast captions and body type and thin flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the steps of
>
> (a) preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin flexible engravings of the thickness of the depressions.
>
> (b) placing said matrix in a curved mold with spacer blocks on its rearward face opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of a mold,
>
> (c) providing a thin flexible sheet metal engraved sheet,
>
> (d) casting a stereotype plate upon said mat, and
>
> (e) thereafter pasting the thin flexible engraving sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface.

Claim 2:

> In the art of newspaper printing by the rotary method the method comprising the steps of
>
> (a) preparing a thin, flexible etched engraving sheet for a picture to be printed,

(b) preparing a mat for casting a stereotype plate,

(c) said mat having blank depressed areas in which pictures are to be located,

(d) casting and finishing a curved stereotype plate from said mat, and

(e) thereafter adhesively attaching the thin flexible etched engraving sheet upon said plate so that rotary printing from the plate and direct from the engravings may be effected.

Claim 3:

In the art of newspaper printing by the rotary method the steps of

(a) etching upon a thin, flexible metallic sheet a picture to be printed,

(b) casting a stereotype plate with a recessed area to receive said etched sheet,

(c) adhesively applying said thin, flexible sheet disposed within such recessed area so that the composite plate may be utilized for rotary printing.

Claim 4:

In the art of newspaper printing by the rotary method the steps of

(a) engraving upon one surface of a thin, flexible metallic sheet a picture to be printed,

(b) casting a stereotype plate with type portions and recessed portions of a depth adapted to receive one or more of said engraved sheets, and

(c) thereafter adhesively securing said sheet or sheets within said recessed portions with the engraved surface thereof in a common cylindrical surface with the surface of the cast type thereon.

Claim 1 is a limited claim reciting the details of the Appellant's procedure. None of the prior art patents, when considered along or in combination with each other, disclose or suggest the combination of the method or process recited by the four claims above. Certainly there must be some pattern, some suggestion of the representative combination, and some disclosure which would teach how to practice the invention of the applicant's claims in the prior art before a rejection may be applied.

A situation of this sort was passed upon in the case of:—

> *Lewis Invisible Stitch Machine Co.* vs. *Columbia Blindstitch Machine Mfg. Corp.,* 37 U.S.P.Q. 635, Dist. Ct. S. D. New York.
>
> "You cannot create an anticipation by building up a mosaic, but that to constitute an anticipation you have to have something that is integral in one patent. That is not found in either of these references."

The Examiner is attempting to follow the procedure condemned by the Court by making up a mosaic by using eight prior patents. Certainly such a procedure is neither fair nor permissible under the Patent practice.

It is very obvious that none of the prior art patents disclose a procedure such as called for in the Blease claims. Some of the prior patents were attempting to solve the same problem. Some of them solved it in a different way, but none of them solved it in the manner of the method claims of Blease. The following decision is believed to be in point:

> *In re G. G. Brown, C.C.P.A.* 25 *Pat. Q.* 134.
>
> "Prior art appliances were not intended to operate in same manner as does that of applicant and hence to attempt to read his claims on prior art requires addition of features in construction not shown or suggested by prior art."

The Appellant's claims are quite limited as to the steps of his process, and it is believed that the following decision indicates the procedure:

> *Ex Parte Friedman,* (*Pat. Off. Bd. of App.*), 7 U.S. P.Q. 50
>
> "Where limitations of importance in carrying out the purpose of the invention are in claims and not in patent cited as anticipation, the claims are allowed."

One of the arguments of the Appellee is that no invention would be involved in substituting the adhesive such as Blease uses for the solder which Horgan discloses. A mere substitution of one material for another sometimes does not involve invention. On other occasions it may involve invention. A situation of this sort was treated in the case of:—

> *Berry* v. *Robertson,* D. C., D. Md., 40 Fed. (2d) 915; 5 U.S.P.Q. 122.
>
> "Substituting one known material in place of another is not invention if the result be merely greater economy or durability of the product; but where such substitution actually involves a new mode of construction or of operation or evidences its superiority in more efficient action, it may amount to invention."

So too, with Blease. The solder had been found to be unsatisfactory for the applicant's purpose. The adhesive was superior, more efficient, and permitted a new mode of constructing the etched plates and affixing them to the cylinder. These were all requisites as required by the Court in the above case.

Counsel for Blease challenges the Appellee to take the claims of Blease and apply them step by step to any one of the prior art patents, and show where the step is disclosed in the patent. If the solicitor for the Patent Office is unable to present to the Court such a detailed explanation as to how the claims are anticipated by any one of the prior patents of record, or as an alternative, to point out where a substitute in the primary patent is suggested so that some other detail can be taken from a secondary patent, then this Court should respectfully allow all of the four claims on appeal.

Invention Involved in Devising the Blease Method

Counsel for Blease respectfully directs the attention of the Court to the Exhibit 11 (Record p. 140) which is an average picture as printed in the Washington, D. C. Post as compared with Ex. 12 (Record p. 141) which is a print from the Corpus Christi paper made in accordance with the Blease invention. Certainly, even the Appellee would have to admit that the prints made by the Appellant's process are far superior to the prints ordinarily used in the newspaper industry.

If the Appellee could produce for the benefit of this Court any prior patent suggesting the procedure by which Blease accomplishes the outstanding results which are so apparent, then the Appellee might have a leg to stand upon in his argument for refusing the claims to Blease, but inasmuch as the prior art is so meager insofar as teaching the Appellant's combination is concerned, it is repectfully submitted that this appeal never should have been permitted to leave the Patent Office.

Attention of the Court is respectfully directed to the cursory opinion of not only the Board of Appeals, (Joint App. pp. 71-72) but also the District Court's informal opinion (Joint App. 10-11), giving the Appellant a brush-off by not even considering the subject matter. The Board of Appeals took the trouble to write exactly six and one-quarter lines in refusing the claims to the Appellant, stating that they had considered the claims, the references, and they believed that the references had been properly applied by the Examiner. As a matter of fact the Examiner never applied the references. The references made to the Examiner's statement, Appellee's Ex. J., (Joint App.

pp. 65-70) in which the Examiner merely states one patent shows one thing, another patent shows some other thing, another patent shows some other thing, and in all the Appellee now has eight patents showing eight different things, *none of which fit together, none of which can be assembled together, none of which could be used together.* If all eight of the patents were given to one skilled in the art with instructions to analyze them and develop a process for printing newspapers therefrom, it is certainly very evident that no such procedure as claimed by Blease could possibly be evolved from them.

One of the arguments of the Appellee is that the procedure should be obvious in view of the prior patents. This question has been determined by the Court heretofore. For instance, the case of:—

> *Alemite Mfg. Corp. et al.* v. *Rogers Products Co., Inc.,* (C.C.A. 3) 43 Fed. (2d) 648.
>
> "All attempts to distort and magnify prior non-analogous art patent way of anticipation have been condemned by the courts and they will not anticipate a patent when none have the combination of elements of the patent."

The fact that the prior patents cannot be used to perform the applicant's process was considered carefully before the Board of Appeals in the Patent Office in the following decision:—

> *Ex parte Schaffert* (*Pat. O. Bd. Appls.*) 4 *U.S.P.Q.* 24
> "application for patent is not anticipated by prior art which cannot be used in manner of applicant's device but must have portions removed and be substantially altered in order to be so used."

The Court of Appeals also passed upon this question in the case of:—

> *Hurd* vs. *Coe, Comr. Pats.* 32 U.S.P.Q. 20, 17 FS 312, D.C. of U.S. for District of Columbia.

> "None of the references show combination nor are any of devices of references intended or adapted to function as that of applicant; in rejection application Patent Office has built up hypothetical structure from number of patents; this practice of anticipating claim is not approved by courts."

The Court of Customs and Patent Appeals passed upon a situation almost identical to that of the present situation when they rendered the decision in the case of:—

> *In re John Stewart Harrison,* C.C.P.A. 25 U.S.P.Q. 456
>
> "Combination of references may be cited in order to show that all steps of process are old and that invention was not involved in combining them, but where preferences cited neither singly nor in combination suggest applicant's process, claims are allowable."

From the foregoing decisions, it is believed apparent that the eight prior patents relied upon by the Appellee, each showing some other idea than that being claimed by the Appellant, failed utterly to suggest the process being claimed.

As intimated above, Counsel for Blease is thoroughly convinced that no one skilled in the art would ever have thought of taking the eight patents relied upon by the Appellee, and from them conceive the combination which Blease is claiming, unless these prior patents teach the idea and the process being claimed. Obviously they do not teach an anticipation.

If the prior patents do not teach the invention of the claims, then it would seem that the applicant would be entitled to the allowance of the claims in this Honorable Court.

Blease Has Made Substantial Improvement in the Art of Teaching a New Combination

It is well settled in patent practice that small changes often result in contributions and advantages entirely out of proportion of the amount of change which is made. The Third Circuit Court of Appeals passed upon a situation of this sort in the case of:—

> *General Electric Co.* v. *DeForest Radio Co.* C.C.A. 3 U.S. Daily, 2858, Nov. 18, 1930 U.S.P.Q. 67.
>
> "In considering change in degree, the test is not the quantum or minimum of change, but the quantum of change in function and result; where great results follow a change, the slightness of the change tends to emphasize and make more remarkable, unexpected and inventive the disproportionate results the slight change effects.

It is often also simple to consider a contribution after it has been made, and believe that the same should be obvious. The Court of Customs and Patent Appeals passed upon such a situation in the case of:—

> *In re Tracy,* (C.C.P.A.) 13 U.S.P.Q. 91.
>
> "Improvement seems obvious, but the fact that no one has used it or at least developed it in this art is an argument in applicant's favor; it seems inventive and is a new combination producing a new and useful result; claims held allowable."

The Board of Appeals have very often granted claims to inventors where the Examiner was attempting to concoct an anticipation out of a plurality of prior patents, none of which show the disclosed inventive concept of the applicant.

> *Ex parte Olcott,* Pag. 2, 254, 387 (B.A.) 51 U.S.P.Q. 65
>
> "The Examiner does not contend that the claims are anticipated by the reference but he takes the position that the invention is obvious and that it is obvious to add Claussen's float controlled valve mechanism to the Stevens combination in the way stated by the appealed claims. What is obvious is always a matter of conjecture, but it is our view that on this record it would be impossible to sustain a holding of lack of invention."

The Tenth Circuit Court of Appeals passed upon the question of what constitutes invention in the case of:—

> *Skinner Bros. Belting Co.* v. *Oil Well Improv. Co.* (U.S.C.C.A., 10 Circuit, 54 Fed. (2d) 896, 898, 12 U.S.P.Q. 61
>
> "No formula has been prescribed which affords a solution of the vexed question: Has Inventive genius been exercised, We know that the simplicity of the device does not belie inventive genius. Hughes Tool Co. v. Int. Supply Co. (CCA 10) 47 F. (2) 490-2, and cases there cited. . We know that we should try to eliminate 'hindsight'; we know that the fact that the problem existed, that financial reward awaited a solution, and that no one did think of it, is strong evidence of invention."

The Appellee's argument in the present case is to the effect that no invention would be involved in taking the several ideas from the eight patents of record and compiling from them the process of the applicant and that such a procedure would lack invention. Certainly there is little or no merit to such an argument when the disclosures of all eight of the patents are considered, because no one of them teaches the Appellant's combination. The Appellee has been taught that combination not by the prior art, but by the Appellant.

This Court of Appeals quite recently passed upon the question of anticipation in the case of:—

> *Poulsen* v. *Coe,* 73 App. D.C. 324, 119 F. (2d) 188; 48 U.S.P.Q. 673.
>
> "The Patent Office and the trial court in statutory action to obtain a patent erred in rejecting certain apparatus and process claims of an application for a patent relating to . . . the recording of sound on films used in the making of talking motion pictures on the ground that applicants' improvement was anticipated." 35 U.S.C.A. 63.

This appeal in the above case appears to have been influenced in awarding claims to the Appellant therein because he had made a contribution to the art and stated:—

> "Certain apparatus and process claims of an application for a patent relating to the recording of sound on films used in the making of talking motion pictures disclosed patentable "inventions," where applicants successfully eliminated distortion and background noise for the future of the art."

So too, in the present case, Blease has made a substantial contribution to the art.

This Court, in the case of:—

Stephens Pump Co. et al v. Coe, 67 App. D.C. 191 91 Fed. (2d) 222, 223 appeared to be in fluenced in such case by the testimony of a witness who testified that the Stephens invention "will work" and in his opinion the construction of the prior art would not work. The record herein shows conclusively that the Blease invention is successful and satisfactory, has been used for some five years by the Corpus Christi, Texas Caller Times newspaper, and has been appropriated and adopted by many other newspapers.

In view of the foregoing, it is respectfully submitted that the four claims on appeal to this Honorable Court definitely recited the details and process followed in practicing the Blease contribution, and should be allowed.

Respectfully submitted,

Lester B. Clark
Emmett Leo Sheehan

Counsel for Appellant

BRIEF FOR APPELLEE

United States Court of Appeals

DISTRICT OF COLUMBIA

Appeal No. 9398

ARTHUR T. BLEASE, APPELLANT

v.

CASPER W. OOMS, COMMISSIONER OF PATENTS, APPELLEE

APPEAL FROM THE JUDGMENT OF THE DISTRICT COURT OF THE UNITED STATES FOR THE DISTRICT OF COLUMBIA

W. W. COCHRAN,
Solicitor, United States Patent Office,
Attorney for Appellee.

E. L. REYNOLDS,
Of Counsel.

United States Court of Appeals
for the District of Columbia
FILED DEC 31 1946

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BRIEF FOR THE COMMISSIONER OF PATENTS

INTRODUCTION

This case involves an appeal from the judgment of the District Court of the United States for the District of Columbia (13[1]), dismissing the complaint in Civil Action No. 27,342, in which the plaintiff sought to have the Court authorize the allowance of claims 1 to 8, inclusive, of his application No. 390,578, for patent on a printing process. The present appeal is confined to four of these eight claims, namely, claims 1 to 4, inclusive, and the other claims need not be considered. The ground of rejection is lack of invention over prior patents.

---

[1] The numbers in parentheses refer to pages of the joint appendix.

APPELLANT'S APPLICATION

The appellant's application here involved relates to stereotype printing and discloses a process in which there is first prepared a type form corresponding to that of the desired final plate, except that in the areas where it is desired to print engravings, the plate is provided with depressions. A matrix is prepared from this type form and is then placed in a curved mold where it is used for casting the stereotype. Spacing blocks are placed between the mold and the matrix in the areas corresponding to the engravings to be printed. The stereotype plate thus cast will have depressions corresponding to the areas of the engravings, and plates bearing the engravings are placed in these depressions and are adhesively secured to the plate.

THE REFERENCES

The patent to Horgan No. 620,133 discloses a process of preparing a stereotype plate which is essentially the same as that of the plaintiff's application. Horgan does not specifically disclose the process of casting the plate from the matrix and hence does not mention the use of spacing blocks between the mold and the matrix. Horgan also secures his engraving plates in place on the plate by means of soldering rather than by an adhesive.

The patents to McGovern No. 843,483, Sands No. 2,229,133, Buschmann No. 1,829,085, and the British patent to Just No. 329,588 disclose stereotype printing plates in which a photoengraving plate is secured in place by means of an adhesive.

The patent to Lowe No. 1,967,444 discloses a process of casting a stereotype plate in which a matrix is placed in a curved mold and spacing blocks are provided between the matrix and the mold to prevent sagging at certain desired points.

The patent to McGovern No. 843,483 discloses an engraving plate used for printing a picture in which the plate may be made of metal as thin as or thinner than .03125 inches, the plate being secured to a backing by means of an adhesive.

APPEALED CLAIMS

The appealed claims appear on pages 3 and 4 of the joint appendix.

SUMMARY OF ARGUMENT

1. The appellant's process is basically the same as that of the Horgan patent.

2. The distinctions which exist between Horgan's process and that of the appellant involved merely matters of choice and selection which would be obvious to the skilled worker in the art, especially in view of the other references of record.

3. The appellant has not shown that his process is superior to those of the references.

ARGUMENT

The appellant's alleged invention relates to a stereotype printing, in which, after the type is set up a matrix is made from which there is cast a solid block corresponding to the original type. It was found that if engravings were also set up with the type for transfer to the matrix and thence to the stereotype, the reproduction was not satisfactory in some cases. Accordingly, the appellant proposed to insert the original engraving therein, thus eliminating difficulties due to the reproduction of the engraving on the stereotype. It is apparent from the application and from the claims originally filed that this idea of using the original engraving was the feature which was considered to be the essence of the invention. (See, for example, page 50 of the appendix, second and fourth paragraphs.)

This basic idea of the appellant is clearly anticipated by the Horgan patent which discloses the use of the original engraving by fitting it into a depression in the stereotype of such depth that the face of the engraving is even with the type faces. The appellant relies on three alleged distinctions over Horgan namely (1) that appellant uses a "thin flexible sheet metal engraved sheet," (2) that this sheet is adhesively attached (or pasted) to the stereotype and (3) that, in casting the stereotype backing material is inserted between the matrix and the concave casting form, to prevent sagging of the portion of the matrix corresponding to the engraving plate. The first two distinctions are found in claim 1 only. They will be discussed in the order given above.

The statement that the engraving plate is thin and flexible is submitted to be entirely too indefinite to be given weight in determining patentability. The application affords no basis for determining the point at which sheets change from "thin" to thick, and the same is true as to flexibility. Even a zinc sheet 1/4 inch thick can be bent, and thus satisfies the dictionary definition of "flexible." Accordingly, if the present claims were allowed, it would be difficult, if not impossible, to determine the thickness necessary to avoid infringing them. It may be noted, however, that the witness produced by the appellant expressed the opinion (appendix page 37, first complete question, page 40, first question) that a .065 inch thickness was "thin" within the meaning of the Blease application. This is the usual thickness for engraving plates used in printing, as is clear from appellant's specification (50) and from the McGovern patent, line 27 et seq., it being noted that sixteen-gage metal, which McGovern refers to as "old practice" for photoengraving plates, has a thickness of .0625 inch. While Horgan does not specify the thickness of his engraving plate, it is reasonable to assume that he employs the "usual" or "old practice" thickness since, if he had intended to use any unusual thickness he would naturally have commented on it. It seems clear, therefore, that the claim presents no distinction over Horgan, so far as thickness of the engraving plate is concerned.

Further, the appellant's application distinctly states (appendix, page 50, lines 21–32) that any desired thickness of plate may be used. In the face of these statements, he cannot properly be allowed claims on the theory that some particular thickness is critical. An examination of the application as filed leads to the conclusion that it was only after the appellant found his basic idea to be old in the Horgan patent that he sought to emphasize the thickness of the plate as a material factor. Since this feature was not originally disclosed or claimed as an element of the alleged invention, it cannot retroactively justify the allowance of any claim (*Abbott et al.* v. *Coe,* 71 App. D. C. 195, 109 F. (2d) 449).

Finally, it may be noted that the alleged advantages in using a thin plate are that it will conform more readily to the stereotype and that it may be made in flat form and curved to its final shape. The first of these advantages is, of course, obvious, it being common knowledge that a thin sheet can be shaped more easily than a thick one. As to the second point, it seems sufficient to note that none of the claims requires that the plate be made originally in flat form, and that this idea is not even disclosed in the application. Clearly, therefore, it can have no bearing on the issues presented here.

The use of an adhesive rather than solder for securing the engraving plate in place involves no more than a choice between conventional securing means. The advantages and disadvantages of solder and adhesives are commonly known and it is within the province of the skilled worker to select whichever he prefers. It is old to use adhesives for securing engraving or printing plates in place as shown by McGovern, Sands, Just, and Buschmann, and there would be no invention in securing Horgan's plate in this manner, rather than by soldering, if desired. It should be noted that the appellant has not shown or claimed any particular adhesive, and that it has not been shown that his use of an adhesive rather than solder accomplishes any new or unexpected result.

The last limitation relied on by the plaintiff is the use of a backing member or spacer block to prevent the matrix from sagging during the casting of the stereotype. This would be an obvious expedient even in the absence of prior art, since it is an almost universal practice to provide such blocks or spacers to prevent sagging. Moreover, Lowe shows the use of such spacers in the exact relation claimed by the appellant, namely, to support the portion of a matrix which does not bear type impressions. Further, Lowe states (line 23 et seq., page 1) that it is old practice to use such spacers, his invention residing merely in a particular kind of spacer. Horgan states that his stereotype is cast "in the usual manner (page 1, lines 46 and 47) and, as shown by Lowe, the usual manner involves the provision of backing behind areas which do not carry type impressions. It is clear therefore that, in carrying out Horgan's process, backing would be used, and that the requirements of claim 1 in this respect would thus be satisfied.

It should be noted that the appellant has failed to show any actual superiority of his process over that of Horgan or any other reference. One exhibit was produced which was made with an engraving plate .027 inch thick, and which shows that satisfactory reproductions can be made by the appellant's process. This has never been denied. The issue, however, is whether the process gives better results than that of Horgan, and no evidence was presented on this matter. The only exhibits offered by way of comparison were conventional newspaper reproductions. It was not explained how these were made but, presumably, they were made by using a casting of the engraving, rather than the engraving itself, this being the usual commercial method of newspaper printing, as explained on page 1 of the plaintiff's specification. Accordingly, any superiority of the plaintiff's reproduction over the other commercial prints is probably due to imperfect transmission of the engraving to the stereotype.

In Horgan's process, as in that of the appellant the printing is done directly from the orginal engraving, and there is no reason why a better result should be obtained in one case than in the other assuming the original pictures to be the same. The thickness of the engraving plate and the manner of securing it in place cannot affect the quality of the picture.

The Patent Office tribunals have held that the appellant's process is not patentably superior to that of Horgan. In view of the close similarity between the two, this holding is clearly reasonable and should be sustained in the absence of convincing evidence to the contrary (*Abbott et al.* v. *Coe, supra, Radtke et al.* v. *Coe et al.,* 74 App. D. C. 25, 122 F. (2d) 937; *Morgan* v. *Daniels,* 153 U. S. 120; *Wolf et al.* v. *Coe,* 72 App. D. C. 224, 112 F. (2d) 857; *Krause* v. *Coe,* 74 App. D. C. 47, 120 F. (2d) 717). As pointed out in these cases, a Patent Office holding should not be set aside, if it is found to have a rational basis, even though the court might have held otherwise if it were considering the case in the first instance.

In the present case there is no actual evidence that the appellant's process is superior to those of the references, especially Horgan. No comparative tests have been made, and the only testimony offered was that of a single witness who admittedly had had no practical experience in the newspaper printing art. The necessity for comparative tests is clearly explained in the decision of this Court in *Blanchard* v. *Ooms,* 153 F. (2d) 651. Clearly the conjectures of such a witness as to possible defects in the prior processes and advantages in that of the appellant are not a sufficient basis for setting aside the concurring holdings of the Patent Office tribunals and the District Court.

CONCLUSION

It is submitted that the appealed claims fail to define a patentable invention and that the decision appealed from should be affirmed.

Respectfully submitted.

W. W. COCHRAN,
Solicitor, United States Patent Office,
Attorney for Appellee.

E. L. REYNOLDS,
Of Counsel.

JANUARY 1947.

U. S. GOVERNMENT PRINTING OFFICE: 1946

No. 9398

JOINT APPENDIX TO BRIEFS

United States Court of Appeals

DISTRICT OF COLUMBIA

ARTHUR T. BLEASE
Appellant,

United States Court of Appeals
for the District of Columbia
FILED JAN 28 1947
Joseph W. Stewart
CLERK

vs.

CASPER W. OOMS, COMMISSIONER OF PATENTS,
Appellee.

Appeal from the District Court of the United States for the District of Columbia

WILSON - EPES PRINTING CO. - RE 6003 - WASHINGTON 1, D. C.

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A—Horgan 620,133 84
B—McGovern 843,483 87
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D—Sands 2,229,133 92
E—Upshaw 1,976,640 95
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Plaintiff's Exhibits 1 to 12, inclusive are not included in the Joint Appendix, but are included in the Record on Appeal. These exhibits are physical examples illustrating the advantages of Direct Printing Process for Rotary Presses. Any attempted reproduction in the Joint Appendix would destroy the value of the physical exhibits. These exhibits appear in the Record on Appeal as follows:

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United States Court of Appeals

DISTRICT OF COLUMBIA

No. 9398

ARTHUR T. BLEASE
Appellant,

vs.

CASPER W. OOMS, COMMISSIONER OF PATENTS,
Appellee.

Appeal from the District Court of the United States for the District of Columbia

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JOINT APPENDIX TO BRIEFS

IN THE DISTRICT COURT OF THE UNITED STATES

61

For the District of Columbia

No. 27342

Arthur T. Blease, in his own right, 2200 Gulf Building, Houston, Texas,

Plaintiff.

v.

Conway P. Coe, Commissioner of Patents, U. S. Patent Office, Washington, D. C.

Defendant.

Suit to Enforce Issuance of a Patent

BILL OF COMPLAINT

The plaintiff states as follows:

I.

The plaintiff, Arthur T. Blease, citizen of the United tSates and a resident of Corpus Christi, in the County of Nueces, State of Texas, brings this suit in his own right.

II.

The defendant, Conway P. Coe, is the Commissioner of Patents of the United States, a legal resident of the District of Columbia, and is sued as Commissioner of Patents of the United States.

III.

The bill is filed in accordance with the provisions of Federal Laws of the United States as provided for under Revised Statutes, Section 4915.

IV.

65 The plaintiff brings this suit in his own right as owner of the entire right, title and interest in and to United States application for patent, Serial No. 390,578 filed April 26, 1941, for DIRECT PRINTING PROCESS FOR ROTARY PRESSES.

V.

The patent application was filed in accordance with the laws of the United States and the Rules of the Patent Office.

VI.

The said application has been duly prosecuted in accordance with the laws of the United Stataes and the Rules of the Patent Office.

VII.

The said application has been passed upon by the Primary Examiner, who refused to allow the following claims:

Claim 1. The method of preparing composite curved sterotype plates including cast captions and body type and thin flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the steps of preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin flexible engravings of the thickness of the depressions, placing said matrix in a curved mold with spacer blocks on its rearward face opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of the mold, providing a thin flexible sheet metal engraved sheet, casting a sterotype plate upon said mat, and thereafter pasting the thin flexible engraving sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface.

Claim 2. In the art of newspaper printing by the rotary method the method comprising the steps of preparing a thin, flexible etched engraving sheet for a picture to be printed, preparing a mat for casting a sterotype plate, said mat having blank depressed areas in which pictures are to be located, casting and finishing a curved sterotype plate from said mat, and thereafter adhesively attaching the thin flexible etched engraving sheet upon said plate so that rotary printing from the plate and direct from the engravings may be effected.

Claim 3. In the art of newspaper printing by
66 the rotary method the steps of etching upon a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with a recessed area to receive said etched sheet, adhesively applying said thin, flexible sheet disposed within such recessed area so that the composite plate may be utilized for rotary printing.

Claim 4. In the art of newspaper printing by the rotary method the steps of engraving upon one surface of a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with type portions and recessed portions of a depth adapted to receive one or more of said engraved sheets, and thereafter adhesively securing said sheet or sheets within said recessed portions with the engraved surface thereof in a common cylindrical surface with the surface of the cast type thereon.

Claim 5. As a new article of manufacture a curved cast stereotype plate adapted to be secured to a rotary press cylinder, said plate including cast type portions and additional recessed areas, and thin, flexible engraved metal sheets adhesively secured in said recessed areas with the engraved surfaces thereof in a common cylindrical surface with the printing surfaces of said cast type.

Claim 6. A new article of manufacture comprising an arcuate, cast stereotype plate, said plate having cast portions thereon for direct printing therefrom and other portions recessed below said first mentioned portions, and thin, flexible etched normally flat engraving sheet bent around said plate and secured within said recessed portions.

Claim 7. A thin flexible engraving sheet having an engraving thereon, said sheet being thin and flexible to be curved and adhesively attached to a curved stereotype plate.

Claim 8. The art of molding a rotary press printing matrix from which stereotype plates are to be cast comprising the steps of providing a blank in said matrix which will form a depression space in the plate, such space being of the size and configuration of the engraving, and of a depth to receive a thin flexible engraving, whereby the engraving may be adhesively attached to the stereotype plate for printing.
which he finally rejected in accordance with the rules of the Patent Office.

VIII.

An appeal was taken from the decision of the Primary Examiner to the Board of Appeals, who affirmed the rejection of the Primary Examiner in a decision dated July 17, 1944.

IX.

67 The Commissioner of Patents, by the Board of Appeals, contends that the applicant's DIRECT PRINTING PROCESS FOR ROTARY PRESSES as recited in the claims thereof is shown in the following references:

Lowe	1,967,444	July 24, 1934
Horgan	620,133	Feb. 28, 1899
McGovern	843,483	Feb. 5, 1907
Sands	2,229,133	Jan. 21, 1941

and as being substantially met thereby and unpatentable over such patents when considered alone or in combination with each other.

The ground of refusal as to claim 1 was that such claim is unpatentable over Horgan in view of Lowe, McGovern and Sands.

Claims 2, 3 and 4 were refused on the patent to Horgan when considered alone or in view of Sands and McGovern.

Claims 5 and 6 were refused in view of the patent to Horgan when considered alone or in view of the Sands and McGovern patents.

Claim 7 was refused in view of the patent to McGovern.

Claim 8 was refused because it was considered as indefinite and unpatentable over Lowe or Horgan.

X.

The applicant disagrees with these contentions of the Commissioner of Patents and contends that none of these references discloses, describes or suggests changes such as called for by the claims and that invention is involved in the construction specified by the claims and that the remaining contentions of the Commissioner of Patents are improper.

XI.

68 Plaintiff further states that said invention is new and useful, was not known or used by others in this country before his invention thereof, and not patented or described in any printed publication in this or in any

foreign country before his invention thereof, or more than one year prior to his application for patent thereof, and not in public use or on sale in this country for more than one year prior to said application, and not patented in any foreign country by him or his legal representative on an application filed more than twelve months prior to said application for United States patent and not abandoned.

WHEREFORE, the plaintiff prays that the Honorable Court decree that the Commissioner of Patents be directed to allow the said claims and such other claims as upon hearing the Court may find patentable, and that the Commissioner of Patents appear and answer this complaint, but not under oath, answer under oath being hereby expressly waived.

Arthur T. Blease
In his own Right, Plaintiff,

By Lester B. Clark
Lester B. Clark.

Emmett Leo Sheehan
Emmett Leo Sheehan

Attorney for Plaintiff Assigning
the Complaint

EMMETT L. SHEEHAN,
BOND BUILDING,
WASHINGTON, D. C.

LESTER B. CLARK,
2200 GULF BUILDING,
HOUSTON, TEXAS.

Filed: Jan. 15, 1945

* * * *

ANSWER TO THE COMPLAINT.

70 I. Defendant admits the allegations of paragraph I.

II. He admits the allegations of his official position and that he is sued in his official capacity. He denies that his legal residence is in the District of Columbia but states that his legal residence is in the State of Maryland and that his official residence is in the District of Columbia.

III, IV, V, VI, VII, VIII, IX. He admits the allegations of paragraphs III to IX inclusive.

X. He admits that plaintiff disagrees with the grounds of the decision of the Board of Appeals affirming the rejection of claims 1 to 8, inclusive, of plaintiff's patent application No. 390,578, relating to Direct Printing Process for Rotary Presses. He admits that plaintiff makes the contentions set out in paragraph X, but denies such contentions. He states that said claims are unpatent-
71 able in view of the following prior patents and for
the reasons given in the Statement of the Examiner in answer to the appeal and the Decision of the Board of Appeals, copies of which will be furnished at the trial:

Horgan,	620,133,	February 28, 1899,
McGovern,	843,483,	February 5, 1907,
Lowe,	1,967,444,	July 24, 1934,
Sands,	2,229,135,	January 21, 1941,
Upshaw	1,976,640,	October 9, 1934,
Buschmann,	1,829,085,	October 27, 1931,
Rohland,	2,213,568,	Sept. 3, 1940,
Just, British,	329,588,	May 22, 1930.

Profert of copies of these patents is hereby made.

XI. He admits that in said application plaintiff made averments corresponding to the allegations of paragraph XI, but denies, for reasons aforesaid, that said allegations are sufficient to justify the issuance of a patent containing any of claims 1 to 8, inclusive, of said application.

W. W. Cochran

Solicitor, U. S. Patent Office,
Attorney for Defendant.

* * * *

ORDER.

72 Upon consideration of the fact that Casper W. Ooms has succeeded to the office of Commissioner of Patents in place of defendant Conway P. Coe, resigned, and the fact that plaintiff desires to continue and maintain the action against said successor, now therefore it is this 1st day of August, 1945

ORDERED that Casper W. Ooms, Commissioner of Patents, be and he is hereby substituted as party defendant in place of Conway P. Coe, formerly Commissioner of Patents.

Matthew F. McGuire
Justice.

* * * *

STIPULATION AS TO PLAINTIFF'S EXHIBITS

73

Come now the parties hereto by their respective counsel and stipulate and agree as follows:

1.

That the following exhibits may be substituted in the case and the files thereof for original Exhibits 1 to 10 inclusive, which are on file in the application of Blease in the United States Patent Office, which original Exhibits 1 to 10 inclusive have been misplacd and are not now available:

Exhibit 1: Page 1 of the Houston Press of Friday, January 11, 1946.

Exhibit 2: Page 1 C "Society News" of the Corpus Christi Caller Times, Sunday, November 23, 1941.

Exhibit 3: Page 2F of the Corpus Christi Caller Times, Sunday, October 13, 1940.

Exhibit 4: Page 1 C "Society News" of the Corpus Christi Caller Times, Sunday, October 13, 1940.

71 Exhibit 5: Page 1 D "Building", Corpus Christi Caller Times, Sunday, October 13, 1940.

Exhibit 6: A photograph showing the type form with the etchings adhesively attached thereto.

Exhibit 7: Matrix which has been formed in the manner in accordance with the disclosure of the Blease application.

Exhibit 8: A photograph showing the paper being printed from the type form.

Exhibit 9: Sheet 1, Section C, Corpus Christi Caller Times, January 6, 1946, which is the paper being printed in Exhibit 9.

Exhibit 10: A photograph of the type form prior to adhesively attaching the etchings.

Lester B. Clark
Counsel for the Plaintiff

W. W. Cochran
Counsel for the Defendant

* * * *

INFORMAL MEMORANDUM

75 At the trial plaintiff withdrew his claims 5 to 8 inclusive. He asks the court to authorize the allow-

ance of his claims 1 to 4 inclusive. His application No. 390,578 relates to a printing process.

The Patent Office tribunals have held that plaintiff's process is not patentable in view of the prior art, relying on several references cited in the examiner's statement. In addition to the references relied upon in the Patent Office the Solicitor has called to the attention of the court four other patents believed to have a bearing on the issue before the court.

The court conclude that the Patent Office was correct in finally rejecting plaintiff's claims.

Accordingly the Solicitor for defendant will submit appropriate findings of fact, conclusions of law and a judgment form dismissing the complaint.

F. Dickinson Letts
Justice

* * * *

FINDINGS OF FACT

76 1. This is an action under R. S. 4915 (U. S. C., title 35, sec. 63) in which the plaintiff, Arthur T. Blease, sought to have the Court authorize the allowance of claims 1 to 8, inclusive, of his application No. 390,578 for patent on a printing process.

2. At the trial the plaintiff discontinued the action as to claims 5 to 8, inclusive.

3. The plaintiff's application here involved relates to stereotype printing and discloses a process in which there is first prepared a type form corresponding to that of the desired final plate, except that in the areas where it is desired to print engravings, the plate is provided with depressions. A matrix is prepared from this type form and is then placed in a curved mold where it is used for casting the stereotype. Spacing blocks are placed be-

tween the mold and the matrix in the areas cor-
77 responding to the engravings to be printed. The
stereotype plate thus cast will have depressions corresponding to the areas of the engravings, and plates bearing the engravings are placed in these depressions and are adhesively secured to the plate.

4. The patent to Horgan No. 620,133 discloses a process of preparing a stereotype plate which is essentially the same as that of the plaintiff's application. Horgan does not specifically disclose the process of casting the plate from the matrix and hence does not mention the use of spacing blocks between the mold and the matrix. Horgan also secures his engraving plates in place on the plate by means of soldering rather than by an adhesive.

5. The patents to McGovern No. 843,483, Sands No. 2,229,133, Buschmann No. 1,829,085 and the British patent to Just No. 329,588 discloses stereotype printing plates in which a photo-engraving plate is secured in place by means of an adhesive.

6. The patent to Lowe No. 1,967,444 discloses a process of casting a stereotype plate in which a matrix is placed in a curved mold and spacing blocks are provided between the matrix and the mold to prevent sagging at certain desired points.

7. The patent to McGovern No. 843,483 discloses an engraving plate used for printing a picture in which the plate may be made of metal as thin as or thinner than .03125 inches, the plate being secured to a backing by means of an adhesive.

8. The exact thickness of the plate used for mak-
78 ing the engraving of the picture or photograph is a
matter of choice. It would not require invention, especially in view of the Lowe patent, to make this plate in the Horgan apparatus as thin as .03125 inches.

9. It is a matter of choice whether the picture engraving plate is secured in place by solder or by an adhesive. It would not require invention, in view of the patents to McGovern, Sands, or Just and Buschmann to secure this plate in place in the Horgan device by means of an adhesive.

10. It would not require invention in view of the Lowe patent to cast the stereotype plate of Horgan by placing the matrix in a curved mold and providing spacing blocks between the matrix and the mold at the areas corresponding to those in which the picture or photograph is to be printed.

11. None of claims 1 to 4 of the application here involved defines invention over the prior art.

12. Each of claims 1 to 4 of the application is unpatentable in view of the prior art.

CONCLUSIONS OF LAW

1. The plaintiff is not entitled to a patent containing any of the claims set forth in the complaint.

2. The complaint should be dismissed as to all the claims involved.

F. Dickinson Letts
Justice.

April 15, 1946.

* * * *

JUDGMENT

79 This action came on to be heard at this term and thereupon, upon consideration thereof, it is, this 15th day of April, 1946,

ADJUDGED that the complaint in this case be, and the same hereby is dismissed with costs against the plaintiff.

F. Dickinson Letts
Justice.

* * * *

STATEMENT OF POINTS

81 1. The Court erred in holding that the patent to Horgan No. 620,133 discloses a process of preparing a stereotype plate which is essentially the same as that of the plaintiff's application.

2. The Court erred in holding that the patents to McGovern No. 843,483, to Sands No. 2,229,133, to Buschmann No. 1,829,085, the British patent to Just No. 329,588 and the patent to Lowe No. 1,967,444 discloses the invention set forth in claims 1 to 4, inclusive, of the patent application No. 390,578 of the plaintiff, Blease.

3. The Court erred in holding, "The exact thickness of the plate used for making the engraving of the picture of photograph is a matter of choice. It would not require invention, especially in view of the Lowe patent, to make this plate in the Horgan apparatus as thin as .03125 inches."

4. The Court erred in holding, "It is a matter of choice whether the picture engraving plate is secured in place by solder or by an adhesive. It would not require invention, in view of the patents to McGovern, Sands, or Just and Buschmann to secure this plate in place in the Horgan device by means of an adhesive."

82 5. The Court erred in holding that, "It would not require invention in view of the Lowe patent to cast the stereotype plate of Horgan by placing the matrix in a curved mold and providing spacing blocks

between the matrix and the mold at the areas corresponding to those in which the picture or photograph is to be printed."

6. The Court erred in holding that none of claims 1 to 4 of the application here involved defines invention over the prior art.

7. The Court erred in holding that each of claims 1 to 4 of the application is unpatentable in view of the prior art.

8. The Court erred in concluding that the plaintiff is not entitled to a patent containing any of the claims set forth in the complaint.

9. The Court erred in failing to authorize the issuance of a patent for each of claims 1 to 4, inclusive, of plaintiff's application No. 390,578, pursuant to R. S. 4915 (U. S. C., title 35, sec. 63).

10. The Court erred in concluding that the complaint should be dismissed as to all the claims involved.

11. The Court erred in entering judgment dismissing the complaint with costs against the plaintiff.

EMMETT LEO SHEEHAN
Emmett Leo Sheehan

LESTER B. CLARK
Lester B. Clark

223 Bond Bldg.,
Washington, D. C.,

Attorneys for Plaintiff.

* * * *

EVIDENCE ON BEHALF OF THE PLAINTIFF

20 Thereupon—

KARL FENNING

was called as a witness on behalf of the plaintiff and, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. CLARK:

Q. Will you please state your name, age, residence and occupation? A. Karl Fenning, 64, patent lawyer, Washington, D. C.

Q. What, Mr. Fenning, has been your training and experience in connection with patent matters? A. After graduating from college and two law schools, I started the practice of patent law, and have been at it continuously for 40 years now, in New York and Cleveland and in Washington.

President Harding appointed me Assistant Commissioner of Patents, and I stayed there at the Patent Office for four years, having to handle many appeals in the Patent cases, and decided on the disclosures of patents, and patent applications, and questions of patentability.

I have had occasion of necessity to examine many hundreds of patents and patent applications, to determine their content and import. 21

Q. Have you gone over the Blease application that is involved in this suit? A. I have.

Q. I hand you the drawings application for patent involved in this suit, which are identified as the defendant's Exhibit I, and ask you to just explain briefly for the record the procedure that is followed in practicing the invention that is disclosed in those drawings. A. I don't know how much detail you wish me to go into after the introductory statement.

Q. Of course the introductory statement doesn't go into the record in case of appeal, and we want to have it not too much in detail, but enough so that it shows a picture of the invention. A. Mr. Blease is making an invention having to do with the printing of newspapers. In recent years the public, although supposed to be more literate than it was in the old days seems to have had its attention directed to pictures more than text. Many of the newspapers are almost entirely pictures, and all of the newspapers are carrying pictures to a great extent.

Newspapers are published quickly, sometimes suddenly. It is not unusual to see a parade, for instance, go by, and as you are leaving the sidewalk to find that the boys
22 are selling newspapers showing pictures of the parade.

It is necessary, therefore, to have some means for producing pictures in such shape that they may be promptly fashioned for printing in the newspapers.

Typesetting machines are still used in newspapers, but printing is not done directly from the type. The type is set up and pictures are taken, and cuts are made of the pictures. The whole matter ordinarily is assembled and locked into a form about the size of the printed page, and a sheet may be printed from that, but instead of printing from that a mold is made by pressing a sheet of papir mache onto the typed page. The papier mache is coarse grained, and consequently the mold which is made by papier mache cannot have as much detail as is desired, especially for the printing of pictures. The pictures are reproduced photographically, generally, through a screen, and it has been found that a coarse screen only may be used to make the cuts for newspapers, and that is the general practice. A glance at any newspaper or most any newspaper at the present time with the picture in it will show that it is not the sort of thing which we are accustomed to find in more carefully prepared books, or some of the magazines which are printed on highly glazed paper, and by other processes.

Q. I show you a sheet, 13-M from the Washington Post, dated Sunday, January 6, 1946, and refer you to a
23 photograph, to a printed picture thereon, and ask
you if that resembles what you understand to be the usual procedure in printing pictures in today's newspapers? A. There is a picture there of a wreckage at Waco, Texas, caused by a hurricane. This seems to be a particularly good example of the sort of thing which is printed in the ordinary newspapers at the present time. It shows houses and wreckage and pictures a man over on one side. You get the general idea that there is a house there, and the wreckage, and that there is a man there, but it is impossible to find sufficient detail there to know exactly what you are looking at. You can't identify the man. You can't see the houses very clearly. The lines of the dark stuff and light stuff on the sheet do not come out with any clarity, and that is due to the fact that that cut has been reproduced through the papier mache mold.

MR. CLARK: The plaintiff would like to offer in evidence the page 13-M from the Washington Post.

THE COURT: Will you mark this, please.

MR. CLARK: Plaintiff's Exhibit No. 11.

THE CLERK: Plaintiff's 1 in this case?

MR. CLARK: We would like to make it 11 for the reason that we have 10 exhibits in the Patent Office which have been misplacd that we would like to bring in. That would avoid changing the numbers on them or con-
24 fusing them with the present exhibit.

(The newspaper page was marked "Plaintiff's Exhibit No. 11," and received in evidence.)

THE WITNESS: Do you want me to compare that with the other print?

MR. CLARK: Yes. I think just the one print is sufficient.

THE COURT: I will take that.

BY MR. CLARK:

Q. I hand you page 8—

THE COURT: Pardon me. How was that picture transmitted to the Washington Post?

THE WITNESS: The statement there is that the picture was transmitted by wire. I think it is marked "Wire-Photo," is it not?

THE COURT: Oh, yes. It is an Associated Press Wire-Photo.

THE WITNESS: If that is what you meant, sir.

MR. CLARK: I hand you page 8 of the Corpus Christi—

THE WITNESS: (interposing): That naturally will interfere somewhat with the texture of the picture, but if Your Honor will be good enough to glance at the other picture on the page, you will see at the same time a very considerable vagueness and indefiniteness. In fact, it is well known that many people will not let the newspapers have their pictures, especially the society columns have difficulty, because many women believe that the roughness of the reproduction of the picture in the newspaper is so unsatisfactory that it interferes with their reputation for beauty, and they will not let pictures be printed.

THE COURT: I don't happen to know any ladies of that kind.

THE WITNESS: If you happen to be a society editor or had some friends who were society editors, their great difficulty is they can't get pictures of many people.

THE COURT: Yes, I have no doubt that is true.

MR. CLARK: For Your Honor's information, some of those exhibits that are missing show some of those pictures of persons in groups. They give those details. That will be appreciated when you see those exhibits.

BY MR. CLARK:

Q. I show you page 8 of the Corpus Christi Caller Times of Thursday, April 24, 1941, which is a picture printed in accordance with the invention of the claims in this suit, and I would like to have you point out the distinctions as compared with the photographs of Exhibit 11.

A. I don't know that anything could be done toward pointing out what is here, other than calling attention to the fact that the outlines of the buildings, the outlines of the walls around appear in very considerable detail,
26 and most anyone looking at that picture will perceive he is looking at what is almost as good as an ordinary photograph printed from the negative from which it is taken.

I am not sufficient of an artist to use artistic terms with respect to the printing, but the clarity is clear. That is because this picture has not gone through the matrix, the papier mache mold. It is printed directly from the plate on which the photographic engraving was made.

MR. CLARK: I would like to offer Page 8 as Exhibit 12.

MR. REYNOLDS: I object to that. It is not properly identified as to the process used in the printing as yet. I think it should appear of record just how it was printed. I will accept Mr. Clark's statement. I think we should have a more definite statement than just the broad idea it was made in accordance with the invention.

MR. CLARK: Of course I am going ahead and have the witness explain the process and point out its advantages as shown by that print.

MR. REYNOLDS: He doesn't know how that particular picture was printed, does he?

MR. CLARK: I understood from you you had no objection to my introducing that picture as having been made by that process.

MR. REYNOLDS: I want a little more definite statement as to the process by which it was made. I am
27 willing to accept Mr. Clark's statement on that point.

MR. CLARK: It was made exactly like the process we claim for.

MR. REYNOLDS: The thing I am particularly interested in is how thick the plate was on which the engraving was made.

MR. CLARK: Blease uses, as I understand it from him, as I say, he was unable to come up here on this trip, he uses a plate .027 of an inch thick.

MR. REYNOLDS: It is your opinion that that was made with that sort of plate?

MR. CLARK: That is what he uses all the time. We have that information in some of these letters here.

MR. REYNOLDS: That is all I wanted.

THE COURT: Let that appear in the record as a stipulation.

MR. REYNOLDS: Yes, sir.

THE COURT: And this may be marked Exhibit 12, and may be received.

(The newspaper page was marked "Plaintiff's Exhibit No. 12," and received in evidence.)

BY MR. CLARK:

Q. Will you just describe briefly the information now
which is disclosed in these drawings, Mr. Fenning? A.
If Your Honor will look at one of these newspaper pages,
you will see that there is printed matter on the
28 page, ordinary type text. There are pictures on
parts of the page. There are blank spaces on the
page around or surrounding the pictures, or in a part of
the cuts. I have suggested to you that the page is prepared, and the mold is taken of it in the papier mache. That mold rather faithfullly reproduces the typed text, and also has depressions where the page is to be blank where no printing is to occur, so that when the inking roller is run over the final mold, final sheet of plate, nothing is printed in the blank pages. Having gotten the mold of papier mache, or, rather, before making the mold of papier mache, the applicant here takes very special precautions. He knows the thickness of his engraved plate which is to be inserted to print the picture, and he knows that when that plate finally appears on the printing plate or the curved plate for printing the paper that it has to be of the same height as the type facings, so that it will be printed.

He therefore realizes that he must have his papier mache mat made in such a way that the face of the space in which the picture is to appear will be set a little away from the type face as they are finally to be reproduced.

Now, the picture space is fairly wide. In some pictures it may cover a large part of the page. In this Exhibit 11 you will notice that the picture covers upwards of half a page. That is a considerable space.

The mat is then curved as shown in the drawing
29 by hand and put into practically a mold which is a
curved member against which the mat is pressed. The side which has been put against the type to receive the impression is put toward the center of the curve. Now, in doing that, there is a fairly wide space as shown in Figure 1 of the drawing, for instance, which is merely blank mat on which there is no type. If type metal, which is extremely heavy, is poured onto that mat, there is a possibility of the mat sinking in some places by the weight of the type metal. At one place it may sink to one extent. At another it may sink to another extent. Now, that is all right if that blank place on the mat is for printing a blank place on the paper itself, that is, you can make it deep enough to get away from that, but even then you will find later that troubles have occurred. When, however, you are going to make a seat for an engraving which has a printed face throughout, you must have what the claim refers to as a smooth surface, flat surface, so that you will have the plate which is of uniform thickness at all parts at the height of the type plate when it is made.

Now, in order to assure it, the applicant here has perceived that the way to keep the mat from sinking is to put a simple, plain, smooth, thick sheet on what he refers to as the back of the mat, that is, on the side of the mat on which lead or the type metal is not to flow. For that
reason he, you may say, reinforces his mat with a
30 thin, smooth sheet which he refers to as cardboard
in his specification. The thickness of that is the thickness of the engraved plate which is to be put onto the mat on the other side. And then he has prepared his mat for casting.

As shown in Figure 5, the mat is placed in this curved member and then this left-hand portion is turned over onto it, and a small space is left between the mold on the left-hand side, and the mold on the right-hand side, and the type metal is poured into that slot which is left, and it comes out—when it is cast and cooled it comes out as a curved hemispherical semi-cylindrical sheet.

Q. Shown in Figure 5? A. Shown in Figure 5.

Q. What is his next step, then, after obtaining his sheet with the depression or recession in it? A. Now, the next step, or possibly before having made the plate with the recession, or at the same time so that the haste of the newspaper office will not be interfered with, the picture which is to be put into the newspaper has been engraved and placed on a very thin sheet of metal, from which it may be printed. That, of course, is a flat sheet, and just as from the original sheet of type in a flat sheet printing could be made, so, from this plate printing could be made. But, instead of doing that, we have got to get it in the curved form, so the applicant, having a
31 very thin sheet which is readily bendable without
breaking the metal in any way pastes that into the open space which has left in the printing plate. And because it is thin, he has an adhesive covering the rear surface of it entirely, it is held in place, and then, of course, the pressure in the printing press itself, the pressure of the paper against the plate as it is printed will tend to complete, if necessary, the adhesion, and at least will hold it in place, and not pull it out of place.

Now, one of the difficulties for many years has been that the fine engraving on a metal plate was liable to be cracked if the plate was deformed in any manner. This place which the applicant makes has the engraving originally on the plate, thin plate, and because he has a thin plate, the fracture tendency is practically eliminated, so that he gets a smooth plate. As in this picture—

Q. (Interposing) Exhibit 10. A. You can see that if in bending there was a crack there, for instance, there would be a break in the line of the print, but because he has a thin sheet, he is not apt to do that.

Q. Have you gone over the claims which are presented here on appeal, Mr. Fenning? A. I have looked at those, and I should like to call attention to some of the words in Claim 1.

32 Claim 1 calls for "the method of preparing composite curved sterotype plates, including cast captions and body type."

That is the material illustrated in the upper left-hand. That is the type which is set on the linotype machine. "and thin flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the step of"—

That, you see, limits very likely the invention to the apparatus used for specific purposes. He is preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin flexible engravings of the thickness of the depressions.

Here you see this depression must be a smooth depression. The plate must be a thin plate to curve practically and the thickness of the plate must be the equivalent of the depth of the depression.

"Then placing said matrix in a curved mold with spacer blocks on its rearwardface opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of the mold."

Consequently, if it is held from the mold on one side, then the side onto which the type metal goes will be definitely fixed.

"Providing a thin flexible sheet metal engraved sheet." That is an engraved sheet which is thin, flexible and metal. "Casting a sterotype plate upon said mat, 33 and thereafter pasting the thin flexible engraving sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface."

You will note the smoothness is required, the thickness is required, the thin depression, the definite distance from the base, the thin metal piece which is flexible, and pasted in position.

In passing I may call attention to the fact that this claim and invention does not relate to the blank spaces which may appear throughout the sheet. That is, this part may be made other ways.

Q. Mr. Fenning, have you gone over the prior patents, Exhibit A through D which were relied upon by the Examiner in the Patent Office? A. I have.

Q. In refusing these claims. I hand you copies of these patents, Defendant's Exhibits A, B, C, and D, which are the Horgan, McGovern, Lowe and Sands patents respectively.

Will you explain briefly for the record how the invention as recited in the claims here on appeal is distinguished from these several patents, Defendant's Exhibits A, B, C, and D? A. Exhibit A, you have it before you, is the
Horgan patent. In general, and certainly at first
34 blush, it may seem that this patent is an anticipation
of the applicant's scheme. In a way Horgan's purpose is the same as applicant's purpose. Note, if you will, however, that this patent is dated 1899, which is 45 years ago, and we still find the unsatisfactory printing of most of the newspapers in the United Statese. It has made no impression, apparently, upon the art.

Now, Horgan contemplates, as shown in Figure 1, leaving a depression in his electrotype, his printing plate, from which he is going to print his newspaper.

As shown in Figure 9, which is a cross-section, the depth of the opening he leaves it very large. It is more than half of the thickness of the printing plate itself. It is a deep hole, and in order to fill that up he must have a thick plate. The thick plate is shown in Figure 9 as being more than half of the thickness of the printing plate.

Q. What is shown here in Figure 3? A. Figure 3 shows the same thing in detail as a perspective.

Q. How does Horgan describe that plan in his specification, referring to page 1, column 2, first two lines? A. Horgan says "on the back of that engraved metal plate, as C, curved to conform to the curve of the surface of the sterotype plate I place a sheet of solder-foil, as D, and apply a soldering paste or liquid to that part of the surface of the sterotype cast to which the plate is to be secured."

Horgan doesn't explain how he is able to get a satisfactory engraving on a curved plate. The engravings ordinarily are present on flat plates, and remember that Horgan was 45 years ago.

Horgan shows in Figure 1 the base of the recess into which he has to set his plate as roughened. If the block or dummy used in the type form is not provided with furrows, that is, if he doesn't have furrows on the back, as "b," the furrows may be made in the sterotype cast where the engraved plate is to be secured.

If you will remember that the time between taking the photograph on the street and the time of putting the newspaper on the street may be five, ten, fifteen or twenty minutes, and it has been brought to that reduction, you will see readily it is impractical for any newspaper purposes to accomplish the result needed. If you have got to stop and look at your electrotype and then get a machine of some sort and cut a lot of criss-cross curves in it.

Again, let us assume he has gotten his heavy, thick, curved plate in some way or other; it is not a flat plate, it

is a pre-curved plate on which he has his engravings of some sort. Underneath that he puts a solder foil, which is shown in Figure 2 as a definite plate covering
36 the entire mat. Then he puts his plate C on top of
his solder foil, on top of the irregular surface B. And then he has got to get some way or other to get the solder melted, so that the two will adhere. He does that by having an apparatus shown in Figure 7 to hold temporarily the cast plate. In that apparatus he puts a metal strip shown in Figure 4 over the engraving which he has set into his cast plate. Then he has a heating device, shown in Figure 5, a gas heating device which he places over the metal strip E, so that the heat will go through the metal strip E and through the plate C, and into and through the solder D, to melt the solder to solder the two parts together, and make them hold. Again remember that you are working with newspapers. You haven't a year's time to do all of this. Remember, also, if you will, that the metal of which the plate C is made may be affected by the heat which goes through to melt the solder.

The result of all this I think is a fairly clear indication of why this Horgan device didn't make a revolution in the newspaper art. It is one of the dream things, many of which we find in the Patent Office.

Q. Would you think it might be possible that the heating of this solder through the thick engraving plate would require temperatures that would affect the lead of the plate carrying the type right adjacent to it? A. I would think it would be very probable, yes, and that would
37 make a blur.

Q. Would heating of the engraved plate hurt it any? A. Yes, the heat would have to be—

Q. (Interposing) Would it impare the engraved plate in any respect? A. Yes.

Q. Would it be possible it would harm it? A. Might be some—Blease pastes with an adhesive.

Q. Why is it Blease is able to use a paste instead of a solder? A. Because Blease has a thin plate which is handled almost like a piece of paper. He doesn't have to have anything to hold his plate in position.

Q. What would be the effect of the centrifugal force of this heavy plate of Horgan's if it was placed on one of the high speed nwspaper presses of today? A. There would naturally be a tendency to pull it out of place.

Q. Would that be true or not true with the very thin plate of Blease? A. It probably would not be true of the thin plate of Blease. It is admitted, of course, Horgan does not anticpate. Remember, Horgan was in 1899. The Patent Office then refers to a patent to Lowe, which
was issued in 1934, 35 years after Horgan, and
38 pretty nearly 10 years ago now. Lowe is dealing
not with the problem which we have, but with the problem of getting the blank space on the page, and he says that when he casts his plate, from which he wishes to print, the weight of the lead on the matrix may cause the matrix to bulge, and consequently the matrix will not be smooth where it is cast, and there may be what he refers to as nigger heads in the spacing which should be completely clear. You will remember first in order to keep the blank place on the page, it is not necessary to have the recess of any particular depth. It can be very deep. These papers don't show the nigger heads, but you probably will remember seeing occasionally a blank space like that with little black stuff in it, looks almost like a smear. That is because the recess in the blank has not been uniform, and som part has stuck up, taking ink from the roll, and made a print on the paper. That is the thing which Lowe is trying to avoid, and he avoids that, to be sure, by putting a pad back of his matrix when he pours his type metal onto it, when he casts his type metal onto it.

Q. Lowe was referring to the usual type of casting sterotype plates, not to one using direct engraving, was he not? A. Correct. Now, in doing that Lowe knew he has a considerable clearance. It doesn't make much difference how deep the recess is. It can be extremely 39 deep. And it need not be exactly smooth all the way across. There may be variations, as the variations don't come out in the type face so as to cause the nigger heads.

The title of the patent is "Space backing felt." He uses felt for that backing, plain strips of backing or spacing felt have been used for filling the spaces mentioned.

And Lowe's invention is merely to say he wants to cut up the strips and have perforations or something of the sort, so that a strip can be cut readily into proper sizes to fill the spaces, the felt not being rigid.

You will note that if you put your finger on a piece of felt, that there will be a depression. When Lowe is pouring metal on his matrix backed by felt inevitably there will be irregularities, so that you will not produce a smooth surface which is adapted to have the thin plate which we have pasted on here in the proper registry with the rest of the type, and he does not need it, because all he is doing is getting away from his nigger heads.

THE COURT: I think we will suspend now and take a five-minute recess.

(Thereupon a short recess was taken.)

THE COURT: You may proceed.

THE WITNESS: I was considering the patents in addition to Horgan's which the Patent Office had referred to. Another patent, Exhibit B, is the McGovern patent. 40 McGovern has a square base on which he pastes by some adhesive what he refers to as a thin metal sheet, on which there is an engraving. It is nothing more than that some mucilage or some paste, of some sort, can be used to fasten a metal sheet. That is not a curved sheet.

Q. What thickness of sheet does McGovern say he uses? A. He refers to twenty-two gage or even less, which may readily be cut with the ordinary tinsmith shears.

Q. That would approximate the sheet Mr. Blase uses? A. I don't know.

Q. To some considerable extent, it does show a thin sheet? A. He refers to it as a thin sheet. Exhibit D, the Sands patent, is a patent which the Patent Office also cites. It is an interesting thing noting that that is the only one of the patents which is even approximately modern. It is a 1941 patent. It evidently does not have in mind the difficulty with newspaper printing. This isn't for printing newspapers at all, but it is a rubber type face, a rubber sheet, which is put around a roller, and is used to print some sort of a business blank, the device operating more or less like an ordinary rubber stamp. Of course it would be entirely useless for newspaper work, or anything of that sort, and the rubber couldn't carry the fine detail of the picture which we are interested in. He does,
however, say that the present invention accom-
41 plishes the desired results, without the need for
saddles which have heretofore been usd in this art. Now, the saddle he refers to is the device which is shown in Figure 7 of the Horgan patent. It is not the printing machine, but it is a device into which the cast metal plate is put for rectifying and correcting before it is put on the printing machine. Horgan, of course, would have to use that in order to get his melting device in there. Applicant doesn't need anything of that sort. He merely pastes directly onto the roller.

Q. Would a rubber type sheet such as shown by the patent to Sands be suitable for newspaper work? A. Not at all.

Q. For high speed printing? A. Not at all.

Q. These four patents that were relied upon by the Patent Office, Mr. Fenning, do anyone of those four suggest the invention or the method of procedure that is being claimed by Mr. Blease in these claims on appeal? A. No.

Q. Do any two of them taken together, taking the combination and the description of the two suggest that procedure? A. No.

42 Q. Or did any four of them altogether, in your opinion? A. No.

Q. Mr. Fenning, the four patents, A, B, C and D, the defendant's exhibits which you have described were relied upon by the Examiner and when this suit was filed in this Court, the defendant has brought into its answer four additional patents, and has introduced copies of them here as Defendant's Exhibit E, the patent to Upshaw, Exhibit F, the patent to Buschmann, Exhibit G, the patent to Rohland, and Exhibit H, the British patent to Just.

Have you gone over those four patents just briefly? A. Yes.

Q. Would you mind stating for the record very briefly the essential feature of each one of those four patents? A. The Patent Office has given no indication of why these patents were introduced, or what effect they seem to have in the case. I can't see that they are of any consequence or importance to us at all.

The Rohland and the Ushaw patents are merely patents which show metal plates rolled or curved. The patents relate to the method of curving the plates. The Rohland patent shows a plate which is rolled into a complete cylinder as indicated in Fig. 5—The patent refers to it, as I remember it, as a cylinder of 2-¾ inches in diameter, so that that is the type of roll from which he is printing.

43-44 Of course, that is entirely foreign to anything in the newspaper art. You couldn't print a page of newspaper from that sort of a roll.

The Upshaw patent shows the curving of a sheet but it is interesting to note that when he wants to use a sheet, he doesn't rely on paste or mucilage or any adhesive for holding his sheet in place. He is making what is a substitute for the ordinary cast plate which is used in the — the type cast plate which is used in the newspaper, and as shown in Figure 6 has perforations in the edge of his plate after it is curved or rolled, and in Figure 7 he shows fasteners, marked 15-B, going into the holes in this plate and into a base member 15, so that he fastens that onto the member, that member which is to take the place of the final printing roll, and is used as a printing roll eventually. At least from Upshaw you can clearly find a statement that you can't curve a plate and merely expect the adhesive to hold it in position.

In Rohland, the curved roll is not mounted on anything. There is no adhesive there.

The Buschmann patent, Exhibit F, has a sterotype plate, but he uses to fasten it to the printing cylinder a base of rubber which is marked "b". I don't see that that adds anything to the prior patents that we are interested in here. It merely shows that you can fasten by some sort of an adhesive a sterotype plate to some sort of a roll.

The British patent is a patent for rolls or plates for printing ornamented surfaces, and particularly fabrics. The applicant seems to have the idea that he may wish to print a piece of drygoods or dress goods with a number of ornamental pictures on it. For instance, he may print one lot with a group of trees or a number of trees spaced on the fabric, and then he may think it would be a good plan to print another lot using the same trees—there is no drawing to that fabric—but having a bunch of birds playing in the trees. For that purpose, when he has a plate he says he can have a recess in the plate, and set something like a new type into the plate. He does that by morticing, making dovetailed openings so that when he drives the inserted blank in, it will be held in position, or he may use rivets to hold it in place.

I can't see that that would have any bearing at all on the use of the applicant's invention.

MR. CLARK: Your Honor, there were 11 letters written

o Mr. Blease from various newspapers making inquiry as to this process, which indicated they were interested in it, in obtaining it for use in their newspapers, that it was attracting attention to that extent. I talked with Mr. Reynolds. I believe he said he would have no objection to just offering these as they are for the purpose of the record, to show that interest in the process.

MR. REYNOLDS: Of course, Your Honor, these letters
are hearsay as to their contents. I am willing that
46 they may be admitted as showing that these people
made inquiries of the plaintiff as to his process.

MR. CLARK: That is all.

MR. REYNOLDS: I object to them as tending to prove any statements.

MR. CLARK: That is all. I just wanted them in the record to show that inference.

THE COURT: Very well. They may be received for the limited purpose.

MR. CLARK: All of them as Plaintiff's Exhibit 13.

(The letters referred to were marked "Plaintiff's Exhibit No. 13," and received in evidence.)

MR. CLARK: I would like to offer in evidence as Plaintiff's Exhibit 14 a photostatic copy of the application for patent of Blease. We will bring that in as soon as we can obtain it.

I only have one question here for Mr. Fenning.

BY MR. CLARK:

Q. Mr. Fenning, after going over all of these eight patents that are being relied upon by the Patent Office, do any of those patents when taken alone or in combination with the others show a picture method or process such as Blease is claiming in its claims here on appeal? Do they suggest that to you?

MR. REYNOLDS: I object to that, Your Honor,
47 as calling for a conclusion on the ultimate question that is before the Court to be decided.

THE COURT: That perhaps is true.

MR. CLARK: Well, possibly so. He has shown he has had some 40 years experience with patents, and I imagine a great deal of his work has been right along that line. I admit it asks for a conclusion on his part, but as such I would like to have him state that just for the record, as to whether or not he thinks that that patents fairly suggest this invention that has been disclosd here. That is, of course, one of the contentions of the Patent Office. Here we have got eight patents, and they run over a period of 46 or 48 years here, that there is no invention in this thing and that Blease, or any other Tom, Dick or Harry should be able to read those eight patents; it is perfectly clear; it is all laid right out there in a patent.

Mr. Fenning has now gone over those patents. I want to have him state for the purpose of the record whether he gets an impression of that sort, or whether he doesn't. In view of the years of experience he had, it seems to me as an expert he would be entitled to a statement of that sort in the record.

THE COURT: I think it is the ultimate question for the Court. The objection will be sustained.

MR. CLARK: I think that closes the Plaintiff's
48 case, Your Honor, on direct.

CROSS EXAMINATION

BY MR. REYNOLDS:

Q. Mr. Fenning, what practical experience have you had with newspaper printing, if any? A. I beg your pardon?

Q. What practical experience have you had with newspaper printing, if any? A. None.

Q. Have you ever seen the process as claimed here carried out? A. No.

Q. Have you seen the process of any of these references? A. I don't know. I have been through a number of newspaper plants to see the sights, not making detailed examinations. I may have seen some of these.

Q. Have you to your knowledge ever seen a practice that was produced in accordance with the disclosure of any of these references? A. Not to my knowledge.

Q. You have referred to a practice in the Washington Post. Do you know of your own knowledge what process was used in producing that picture? A. No.

49 Q. Now, the claims involved here refer to the engraving as being on a thin flexible sheet of metal. Do you consider the thickness of the sheet to be an essential element? A. From the specification and from the claims it is clear that the applicant must have a thin plate.

Q. Now, on page 5 of the specification we find the statement that the plate may also be of any desired thickness. How do you explain that? A. May I have the specification, please? The sentence to which you refer refers to desired thicknesses, and I think without question "desired thickness" must mean a thickness which is useful for carrying out this particular invention, one which would be desired for this particular purpose.

Q. Now, on the same page there is a statement, "It is to be understood, however, that thicker or thinner engraved plates may be used without departing from the invention."

How do you explain that? A. Just above attention has been called to a thickness of .065 inches, and I assume that the statement to which you refer merely means that the applicant does not want to be limited to any thousandths of an inch in thickness, that there may be a variation in thickness. "Without departing from the invention" of course means you can still use something which is adapted to the particular purpose.

50 Q. Do you consider a thickness of .065 inches as being useful for the purpose of Blease? I think it might be well if you just read that whole paragraph on page 5, next to the last paragraph, in the record. A. I should assume that plates of .065 inches thickness might be useful for the operation, although it is possible, as the applicant says, to use thinner plates.

Q. .065 of an inch is the usual thickness, is it not? A. I don't know. I don't know what you mean by the usual thickness.

Q. Isn't that what it says? I am quoting from the application. He refers to the usual— A. (Interposing) .065.

Q. Plates. A. I don't know what he means by usual, whether it is usual in this apparatus, or some other apparatus. I assume it means in his apparatus, therefore it would be usual for his apparatus, and that would be a satisfactory thickness.

Q. You don't have any knowledge, then, of the actual thickness that is ordinarily used? A. I do not.

Q. The McGovern patent refers to it as being a 16-gage zinc. Would you say that is usual or not? A. I don't know what 16-gage means.

Q. 16-gage means .062 of an inch. He says this,
51 McGovern does:

"In accordance with the old practice of mounting photo-engraving plates or the like the matter of producing the printing-surface not being here considered, the plate is cut from sixteen-gage zinc." A. I haven't McGovern before me. I would like to see McGovern and see what you are talking about.

Apparently McGovern is here talking about the flat plates which are put on the top of blocks for ordinary flat printing, and he indicates that such a plate, that is, the 16-gage zinc is put upon the block and fastened to it by driving nails through it, or tacks, so as to hold it in position.

Q. Well, have you any reason to suppose that it was the conclusion to use metal thicker than 16-gage in making prints of the type here involved? A. I have seen plates much thicker than 16-gage. I have seen plates almost a quarter of an inch thick.

Q. I said the usual practice. A. I don't know what the usual practice is.

Q. Now, you have referred to the fact, or alleged fact that the plaintiff makes his etching on a flat plate. Does the specification say that? A. The specification doesn't
say that he doesn't, but since that is the usual prac-
52 tice, and since he does not explain that he makes it
on any other type of plate, it seems obvious that he
makes it on flat plates.

Q. Are any of the claims limited in any way to making it on a flat plate? A. May I look at the claims?

MR. CLARK: No, none of them.

BY MR. REYNOLDS:

Q. Have you answered that? A. I haven't seen his claims yet.

MR. CLARK: None of the claims are limited to the flat plate.

THE WITNESS: Claim 1 calls for a thin flexible sheet metal engraved sheet.

Claim 2 calls for the thin flexible etched engraved sheet.

Claim 3 calls for etching upon a thin flexible metallic sheet.

Claim 4 refers to a thin flexible metallic sheet.

In other words, there is no statement that the sheet is a flat sheet, but sheet is an ordinary expression used to refer to something which is flat or smooth, and I assumed from that that he is referring to a flat sheet.

Q. Where the claims used the word "thin" what thickness do you suppose is contemplated by that? A. The thickness explained in the specification, which would be a thickness within the inches called for by the specifi-
53 cation, if such specific material was used, or a thick-
ness which would be adapted to use in the particular way that the applicant explains. I don't think that an effort is being made here to define the thickness of the plate by thousandths of an inch.

Q. How would you tell when that claim was being infringed, then? A. Easily. Go in and see what the man is doing. If he is doing what the claim calls for, then we will see an infringement.

Q. Suppose he uses a plate one-fourth of an inch thick? Would he be doing what the claim calls for? A. If he could get a flat plate a quarter of an inch thick which would take a detailed type of engraving, and could then apply that to the curved board and fasten it by an adhesive in a satisfactory way, it is conceivable that he might come within the terms of the claim if he carried out the other requirements of the claim. I do not believe that that is what is contemplated, I am unable to say what difference between a quarter of an inch and another thickness would definitely come within the terms in the claim. That is a matter for the man versed in the art, a man who is a printer, and has done engraving.

Q. And then it is your opinion that thin is virtually
of no effect as a limitation, is that true? A. Oh,
54 no. In my opinion thin means he must have a plate
of the thickness required in carrying out this invention.

Q. That would be true whether it said it was thin or not, wouldn't it? A. It might be. That might be read into the claim. I believe in view of the fact the specification does refer to thin plate—

Q. (Interposing) At least you won't say thin refers then to any particular thickness limit? A. It may refer to a particular thickness limit, but that limitation must be applied by a man who is versed in the specific art to which this relates.

Q. But you don't know what it would be? A. I don't know.

Q. Now, will you refer to the Horgan patent, please? A. Yes.

Q. He makes a matrix from the arrangement that is shown in Figure 1, in just the same way that the plaintiff makes a matrix, doesn't he? A. Figure 1, as I understand it, is a fragment of a curved sterotype cast which is made from the matrix. The matrix is not made from that. At least the specification so says.

Q. You think that is the final product, is that
55 right? A. The specification seems to define it as
a fragment of a curved sterotype cast, which I assume means it is something which has been cast from the matrix.

Q. The form from which it was prepared would look just the same, wouldn't it? A. Not necessarily, because he says this roughness, "b", may be put in.

Q. Well, put it this way: He makes his matrix from the type cast in the same way that the plaintiff does, doesn't he? A. No, I think he doesn't make his matrix from a type cast.

Q. Type form, I should have said. He makes that in the same way the plaintiff does, is that right? A. I don't know. He doesn't say so, and what happened in 1899 and what happens today is possibly different. Certainly some improvements have been made in the art. He doesn't say how he made it. He made it in some way which was known at that time.

Q. How do you suppose he made his cast on that matrix? A. I don't know. He doesn't explain. And the Patent Office has put in no evidence prior to 1899 to show how casts were made.

Q. He says it was made in the usual way, doesn't he? A. Yes.

56 Q. And certainly the usual way of making it would show there was some way of making it? A. Probably.

Q. And that way would naturally involve putting it into some kind of mold, wouldn't it, a curved backing of some sort would have to be used? A. Probably.

Q. Suppose you put it into that kind of a backing, it would be apparent that the part B would have a tendency to sag, wouldn't it, when the metal was poured in? A. Yes. The tendency might not amount to much, might not make much difference.

Q. If it did, the solution would be obvious, wouldn't it? A. The solution which someone has apparently is to put a thick plate over it, and a relatively thick lead or solder. Now, when the solder melts, it may be that the pressure on the surface would tend to squeeze the solder out, so that the solder would even up the irregularities. I don't know. At least he doesn't say so. He doesn't contemplate doing anything. He might not have realized he would get any irregularities.

Q. Assuming he had, don't you think it would be obvious how to avoid it? A. I don't see how it
57 could be avoided.

Q. You wouldn't think of putting a backing in it to prevent sagging? A. I would hesitate to say I would think of it, when the Patent Office apparently has granted a patent to someone else later for doing it.

Q. Is that the best answer you can make to that question? A. What I would do myself, I don't know, because I am not a printer.

Q. Wouldn't you think it obvious if sagging took place, to put something in between it? A. Not if I found another way of taking care of the defect of sagging. The solder might take care of the defect of sagging. You know, when you have an irregular surface, you can correct the irregular surface in two or three ways.

Q. Well, a man who had considered the problem and wanted to correct it, you think he would be helpless, is that right? A. No, he might figure out some way of correcting it.

Q. If he decided to put something in between to support it, support the part that was sagging, you would not say he was making an invention? A. If he put something in between of specific dimensions, for a specific purpose, to accomplish a specific result, all of which was new, he might make an invention. In fact, doing an old
58 thing in a new way to accomplish a new result is one of the definitions of invention, if I don't seem impertinent in suggesting that.

Q. Now, you mentioned some distinction between the backing material that is shown by the Lowe patent, and that which the plaintiff uses. Do any of the claims say anything about what backing material is used? A. The claims do not, but the specification does.

Q. Now, it is common to secure metal parts together by means of adhesive, is it not? A. Yes.

MR. REYNOLDS: That is all.

THE COURT: Mr. Clark.

MR. CLARK: Just one question, Your Honor, and then we will be finished.

THE COURT: Yes.

REDIRECT EXAMINATION

BY MR. CLARK:

Q. I would like to ask you, Mr. Fenning, for the purpose of the record, to read the sentence beginning at line 19 on page 5 into the record as clarifying his description of the thickness of the plate of the plaintiff. A. This plate—you are referring to the plate 25?

"May also be of any desired thickness, and I have found that zinc or copper plates which are materially
59 thinner than the usual 0.065 inch plates may be used.
Plates of small thickness minimize the difficulties from inherent stiffness thereof when securing the plates to the cast sterotype plates to complete the composite plate of the invention."

Q. Does that indicate to you that Blease intended to use plates thinner than the usual .065 per inch in this operation? A. At least he shows it may be desirable to do so.

Q. He is attempting to avoid any stiffness? A. Yes.

Q. Of that plate in using a thin plate? A. Yes.

MR. CLARK: That is all.

MR. REYNOLDS: That is all.

MR. CLARK: If Your Honor please, I would like to have permission to file a brief in this case.

THE COURT: Yes. I want to ask a question. You introduced as your Exhibit 1 page 8 of the Corpus Christie Times of April 24, 1941, and I understand it is stipulated that that was produced according to the specification of this claim.

MR. CLERK: With the use of the thickness of .027 of the engraved plate, that is right, yes, sir.

THE COURT: Did your stipulation cover the
60 pictures on the reverse side of that sheet, which is
page 7?

MR. CLARK: No, sir, just extended to the one photograph on page 8. You understand, Your Honor, these other plates on the back are made by the usual procedure, and you will notice in some of them a great number of dots that are around in there. They don't have the fine shading.

THE COURT: That is the reason I was asking the question.

MR. CLARK: Yes. The majority, practically all of the prints on the back of that page 7 are what they call commercial advertisements, and the engravings are submitted by a national advertiser, and they just throw them into the print and use them.

THE COURT: There is a picture of Colonel Brower of the United States Military Observer. I was looking at that also. I understand the stipulation doesn't cover that.

MR. CLARK: No, just page 8.

THE COURT: All right.

MR. REYNOLDS: I would like to offer for the defendant the folder I handed to Your Honor at the start of the trial as Defendant's Exhibit 1.

THE COURT: Let this be marked Defendant's Exhibit 1.

(The folder referred to was marked "Defendant's Exhibit No. 1," and received in evidence.)

MR. CLARK: Mr. Reynolds, I have these ex-
61 hibits 1 to 10. Do you think the Patent Office might
be able to produce those for us?

MR. REYNOLDS: We are trying to get them. The Patent Office is partly here and partly in Richmond. They may have gotten lost somewhere. I am trying to get them. If I do, I am willing that they go in as part of the Patent Office record. We will know in a week or so definitely whether you can get them. If we can, we will put them in.

* * * *

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91 —40—

Docket 2087

Mail Division

Apr 26 1941

U. S. Patent Office

PETITION AND POWER OF ATTORNEY

TO THE COMMISSIONER OF PATENTS:

Your petitioner, Arthur T. Blease, a citizen of the United States, and a resident of Corpus Christi, in the County of Nueces and State of Texas, whose postoffice address is c/o The Corpus Christi Caller-Times, Corpus Christi, Texas prays that Letters Patent may be granted to him for the improvement in Direct Printing Process for Rotary Presses set forth in the annexed specification; and he hereby appoints LESTER B. CLARK, Registration No. 12,677, address 2200 Gulf Building, Houston, Texas, his attorney, with full power to act in matters of substitution and revocation, to prosecute this application, to make alterations and amendments therein, to receive the patent, and to transact all business in the Patent Office connected therewith.

Signed at Corpus Christi, in the County of Neuces and State of Texas, this 23 day of April, A. D. 1941.

ARTHUR T. BLEASE

(Inventor's FULL FIRST Name.)

SPECIFICATION

TO ALL WHOM IT MAY CONCERN:

Be it known that I, Arthur T. Blease, a citizen of the United States residing at Corpus Christi, Nueces County, Texas have invented a certain new and useful improvement in Direct Printing Process For Rotary Presses of which the following is a specification:

—40—

Docket 2087

92 This invention relates to a method of direct printing from engravings in rotary presses for newspapers and to a composite stereotype plate utilized in such method.

In order to obtain high speed printing of the modern newspaper the rotary method of printing has been devised, printing being effected by providing a cylinder to which curved stereotype plates are attached and a moving strip or web of paper being pressed against the plates during rapid rotation of the cylinder and plates. In order to carry out this process a page form is first made up including type for the printed portion and etched engravings for the pictures to appear on the printed page.

A mat or matrix is then made of such page form and thereafter curved printing or stereotype plates are cast upon the matrix to provide a printing surface conformable with the surface of the type and engravings of the page form.

In making the engravings for the purpose just indicated, a screen photograph is usually made of the view to be reproduced, it being customary that such screen photograph shall constitute 60 lines per inch whereby the picture is made up of 3600 dots per square inch. Snch dots are of varying density to show the highlights and shadows and gradations therebetween. If, however, the number of lines per inch exceeds that above indicated difficulty is encountered from smudging in the printed reproduction. On the other hand, the use of 60 lines per inch is quite apparent to the naked eye and as a result the reproduced views lack in the minute gradations between highlights and shadows ncessary for most satisfactory printed reproductions.

93 In accordance with the present invention printing can be effected direct from the engravings and accordingly it is possible to reproduce screen photographs with as many as 100 or more lines per inch. In other words, photographs can be reproduced with approximately 10,000 dots or impressions per square inch. The minute components of such reproductions are not perceptible to the naked eye and the reproductions approximate actual photographs without undesirable smudging or other imperfections. Also, in accordance with the invention various depths of engraving or etching may be used and if desired part or all of the highlights may be undercut so that no ink will be applied at such areas in the reproductions.

It is the primary object of the invention to accomplish newspaper printing by the rotary method wherein direct printing from engravings is utilized.

Another object is to provide printing by the rotary method in a manner that type printing is accomplished directly from the stereotype plate and photographs are printed directly from engravings which comprise a component part of the plate.

Still another object is to provide a novel method of preparing composite stereotype plates including engravings for direct printing therefrom.

A further object is to provide for direct printing from an engraving plate or plates of part or all of the printed sheets produced by the rotary type printing press.

A more specific object is to provide a composite curved stereotype plate which includes cast type thereon and an etched engraving adhesively secured upon such plate with its surface in the cylindrical surface of the cast type.

Still another object is to provide a composite stereotype plate which includes thin engraved plates conformable with the intimately, adhesively secured to the surface of the cast metal of the plate.

A still further object is to form a stereotype plate
94 by providing a mat having letters, characters or
designs impressed therein to be reproduced by printing from metal cast upon the mat, other portions of the mat or matrix being smooth to provide upon the cast stereotype plate areas adapted to receive engraved plates from which printing is effected directly.

Other objects and advantages will be apparent from the following description considered in connection with the accompanying drawings in which:

Fig. 1 is a plan view of a form page set up for the preparation of a mat or matrix preliminary to the casting of a stereotype plate in accordance with the invention;

Fig. 2 is a sectional view taken on line 2-2 in Fig. 1, the mat being shown thereabove;

Fig. 3 is a transverse sectional view through the formed mat;

Fig. 4 is a view of a spacer block to be used with the mat or matrix shown in Fig. 3 when casting type metal to form a cylindrical stereotype plate;

Fig. 5 is an end view of the mold for casting the stereotype plate;

Fig. 6 is an enlarged sectional view showing the relative positions of the mold, the matrix and the cast metal;

Fig. 7 is an end view of the cast stereotype plate;

Fig. 8 is a sectional view through the prepared plate showing the engraving adhesively secured in place.

Referring to the drawings the reference character 1 represents a make-up frame or page form clamp within which are placed spacers 2, in those areas which are to be occupied by direct printed photographic reproductions, and a type portion 3 for heading or caption for the printed page or the individual pictures reproduced thereon. The spacers and type are clamped longitudinally of the frame 1 by means of a clamp bar 4 which is engaged by the clamp screws 5 passing threadedly through the end of the frame 1. Transverse clamping of the type portion 3 and the spacer bars 2 is effected by means of serrated clamp bars 6 and 7 of which the latter is forced to the right in Fig. 1 by means of clamp screw 8 whereby the desired wedging action is effected.

When the page form is completed in the manner just described, a sheet 10 of matrix material is pressed intimately upon the page form to produce a matrix or mold having the type letters 3 impressed or formed therein as shown at 11, the remainder of the mat or matrix remaining smooth or flat.

The matrix is next placed within an arcuate or concave drag 15 preliminary to juxtaposition of the drag and the cylindrical cope 16 so that molten metal cast therebetween forms the desired stereotype plate which is shown at 17. It should be noted, however, that in accordance with the invention the surface of the stereotype in the smooth portions thereof must be recessed at 18 to such depth that when an engraving is subsequently secured thereto the surface of the engraving plate shall lie in a cylindrical surface with the outer or printing surface 20 of the cast type. Such recessing is effected by positioning one or more spacer blocks 21 of cardboard or other suitable material on the rearward face of the matrix 10 within the drag

15. It is to be understood that such cardboard is of a thickness that the surface 18 is desirably recessed.

The spacer block 21 is cut away at 22 so that the
96 recessed surface is formed only over that portion
of the page not covered by the heading or caption 3.
It is, of course, to be understood that various captions may be used over the page and that the number and dimensions of the blocks 21 will vary accordingly, the essential feature being that the areas to be covered by the printed pictures shall be recessed to such an extent that the engraving or engravings subsequently secured therein shall present a printing surface which lies in a common cylindrical surface with the outer or printing surface 20 of the cast type letters 19.

In Fig. 7 there is shown a cast stereotype plate 17 having the cast letters 19 thereon, the remaining surface 18 of the plate being recessed sufficiently to receive the etched or engraved plate 25 as shown in Fig. 8.

The plate 25 may be prepared in any suitable manner but is preferably prepared by etching or by electrodeposition as is well known in the art. This plate may also be of any desired thickness and I have found that zinc or copper plates which are materially thinner than the usual 0.065 inch plates may be used. Plates of small thickness minimizes difficulties from inherent stiffness thereof when securing the plates to the cast stereotype plates to complete the composite plate of the invention. It is to be understood, however, that thicker or thinner engraved plates may be used without departing from the invention, an essential feature of the invention being that the depth of the recess surface 18 shall be correlated with the thickness of the engraved plate 25.

After the stereotype plate 17 and the engraving
97 plate 25 have been prepared a small quantity of
adhesive 26, preferably in sheet form, is placed

therebetween and the engraved plate is intimately pressed into engagement with the stereotype plate. It has been found that by means of the intimate bond thus obtained, many thousands of printed copies can be produced without any loosening of the engravings from the underlying plate.

It is to be noted that no screws or other type of clamping means is necessary to hold the etchings or engravings in place since it appears that the etchings or engravings become more tightly secured in place during their continued use. Furthermore any number of pictures may be printed on a single page and may occupy part or all of the page. At the same time none of the advantages of the rotary method of printing newspapers are lost. On the other hand direct printing from the engravings 25 presents advantages both as to the cost and the quality of the reproductions. Both 85 lines per inch and 100 lines per inch have been used with very satisfactory results, the printed pictures closely approximating the original.

Broadly the invention comprehends a novel method of direct printing of pictures from engravings in the rotary method of printing newspapers. Such method includes the use of a stereotype plate bearing cast headings and/or captions thereon and engravings secured to such plate with the engraved surfaces thereof in a common cylindrical surface with the printing surface of the cast type on the stereotype plate.

Docket 2087

What is claimed is:

98 1. The method of preparing composite curved stereotype plates including cast captions and body type and thin, flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the

steps of preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin, flexible engravings of the thickness of the depressions, placing said matrix in a curved mold with spacer blocks on its rearward face opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of the mold, providing a thin flexible sheet metal engraved sheet, casting a stereotype plate upon said mat, and thereafter pasting the thin, flexible engraved sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface.

2. In the art of newspaper printing by the rotary method the method comprising the steps of preparing a thin, flexible etched engraving sheet for a picture to be printed, preparing a mat for casting a stereotype plate, said mat having blank depressed areas in which pictures are to be located, casting and finishing a curved stereotype plate from said mat, and thereafter adhesively attaching the thin, flexible etched engraving sheet upon said plate so that rotary printing from the plate and direct from the engravings may be effected.

3. In the art of newspaper printing by the rotary method the steps of etching upon a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with a recessed area to receive said etched sheet, adhesively applying said thin, flexible sheet disposed within such recessed area so that the composite plate may be utilized for rotary printing.

4. In the art of newspaper printing by the rotary
99 method the steps of engraving upon one surface of
a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with type portions and recessed portions of a depth adapted to receive one or more of said engraved sheets, and thereafter adhesively securing said

sheet or sheets within said recessed portions with the engraved surface thereof in a common cylindrical surface with the surface of the cast type thereon.

5. As a new article of manufacture a curved cast stereotype plate adapted to be secured to a rotary press cylinder, said plate including cast type portions and additional recessed areas, and thin, flexible engraved metal sheets adhesively secured in said recessed areas with the engraved surfaces thereof in a common cylindrical surface with the printing surfaces of said cast type.

6. A new article of manufacture comprising an arcuate, cast stereotype plate, said plate having cast portions thereon for direct printing therefrom and other portions recessed below said first mentioned portions, and thin, flexible etched normally flat engraving sheet bent around said plate and secured within said recessed portions.
Add B

IN TESTIMONY WHEREOF I hereunto affix my signature this 23 day of April, A. D. 1941.

ARTHUR T. BLEASE
(Inventor's FULL FIRST Name.)

• • • •

IN THE UNITED STATES PATENT OFFICE

117 Div. 17, Room 405

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U. S. PATENT OFFICE

Nov 16 1943

DIVISION 17

IN RE: APPLICATION OF
ARTHUR T. BLEASE
SERIAL NO. 390,578
FILED: APRIL 26, 1941
FOR: DIRECT PRINTING
PROCESS FOR ROTARY PRESSES

APPEAL TO THE BOARD OF APPEALS

Comes now the applicant, Arthur T. Blease, and files this his appeal to the Board of Appeals from the final rejection of May 10, 1943. The appeal fee of $15.00 is inclosed herewith. The reasons for the appeal are as follows:

1. The examiner erred in rejecting claims 1 to 8 inclusive.

2. The examiner erred in not allowing claims 1 to 8 inclusive.

3. The examiner erred in rejecting claims 1 and 2 on the patent to Horgan in view of the secondary patents to Lowe, Sands and McGovern.

4. The examiner erred in alleging that no invention could be seen in the combination of the applicant's claims.

5. The examiner erred in rejecting claims 3, 4, 5 and 6 on the patent to Horgan in view of the secondary references stated by the examiner.

6. The examiner erred in rejecting claim 7 as indefinite.

7. The examiner erred in rejecting claim 7 as unpatentable over the disclosure of the patent to McGovern.

Respectfully submitted,

LESTER B. CLARK
Counsel for the Applicant.

* * * *

IN THE UNITED STATES PATENT OFFICE

118 Div. 17, Room 405

U. S. PATENT OFFICE

Nov 16 1943

DIVISION 17

IN RE: APPLICATION OF
ARTHUR T. BLEASE
SERIAL NO. 390,578
FILED: APRIL 26, 1941
FOR: DIRECT PRINTING
PROCESS FOR ROTARY PRESSES

AMENDMENT FOR PURPOSES OF APPEAL

Commissioner of Patents
Washington, D. C.

Dear Sir:

It is respectfully asked that the following amendment be entered for purposes of appeal.

Kindly add the following claim:

Entry approved for appeal R.L.

8. The art of molding a rotary press printing matrix from which stereotype plates are to be cast comprising the steps of providing a blank in said matrix which will

form a depression space in the plate, such space being of the size and configuration of the engraving, and of a depth to receiive a thin flexible engraving, whereby the engraving may be adhesively attached to the stereotype plate for printing.

REMARKS

On reviewing the application for purposes of appeal it is believed that the applicant is entitled to present a claim to the subject matter of newly framed claim 8; that none of the claims in the application precisely covered the subject matter of this claim and for this reason the claim is presented at this time. Counsel did not heretofore appreciate that the claim of the scope of new claim 8 could be framed in the application.

New claim 8 distinguishes over the patent to Horgan and the other references of record for the reasons specifically stated in the last amendment of April 27, 1943.
119 It is not believed necessary to herewith repeat these arguments, but it is believed that claim 8 should be allowed. It is therefore respectfully asked that such claim be entered in the application for purposes of appeal. An appeal to the Board of Appeals from the final rejection of May 10th is being filed concurrently herewith.

Respectfully submitted,

Lester B. Clark
Counsel for the Applicant.

• • • •

BRIEF OF THE APPLICANT ON APPEAL

127 Comes now the applicant and respectfully asks that the final rejection of the primary examiner, dated May 10, 1943, be reversed.

The applicant has brought to this Honorable Board of Appeals eight claims which are all the claims in the application. No claims have been canceled, and it is believed that the examiner has been unduly severe in his rejection of the claims because the applicant has a meritorious invention which has gone into widespread use through the United States and appears to be a step forward in the art.

THE INVENTION

The examiner has very ably, but rather briefly, described the invention and the prior difficulties on page 3 of his statement and admits that engravings which are halftones made up at sixty lines per inch give a screen composd of large dots in the printed reproductions which are objectionable; but that on the other hand stereotypes produced from engravings having fine screen images or more than sixty lines per inch are unsatisfactory.

128 The examiner correctly states the prior practice of casting the printing plate by taking the impression of the type in a soft matrix material and then casting the type metal against the matrix to produce the original form and that difficulty is encountered where etched engravings of pictorial matter are to be printed.

In order that the Honorable Members of the Board may have before them a typical print or picture of the usual type appearing in newspapers, page 10 of the HOUSTON PRESS of Wednesday, May 31, 1944, is attached hereto as Exhibit 1; and particular attention is directed to the photograph reprinted in the middle of the page, attention being directed to the fact that the dots and printing give a reproduction which is not clear and which is generally considered as objectionable.

It is respectfully asked that the members of the board compare the print of this Exhibit 1 with the pictures shown on the full page print Exhibit 2, which is page 1-C from the CORPUS CHRISTI CALLER-TIMES of Sunday, April 28, 1940.

There is no comparison between the clear-cut showing of Exhibit 2 and the fuzzy reprint of Exhibit 1. All of the pictures on Exhibit 2 were made in accordance with the invention of the claims here on appeal.

Exhibits 3, 4, and 5 show further prints of newspaper pages made up in accordance with the present invention, and it seems the advantages over the picture of Exhibit 1 are obviously apparent.

In the applicant's drawings Fig. 1 shows a type from wherein the engravings are to be attached, where filler blocks are used to confine the text matter and the blocks are of such a thickness that the matrix which is
129 formed therefrom will have an impression therein
such as 10 shown in Fig. 3.

After this matrix has been thus made and formed with the impressions as shown in Fig. 3, it is placed in a suitable mold and the metal cast against the matrix. The metal plate then formed has the depressions of a size and shape and of a depth to receive th etchings or engravings. These etchings or engravings are then attached to the cast plate in the depressed area such as the impression 10 as seen in Fig. 8. In order to illustrate this to the Honorable Members of the Board, a photograph, Exhibit 6, is attached hereto showing the type form of Fig. 1 of the applicant's drawing where the etchings have been adhesively attached, to fill out the area not taken up by the printed matter.

Exhibit 7, attached to this brief, is a matrix which has been formed in the manner of the invention with the impressions caused by the filler blocks shown as raised above the elevation of the base of the recesses caused by the type. In order to firmly support these impressions when the matrix is used in casting the type so as to form a depression in the metal, thin pieces of cardboard have been attached to the reverse side of the matrix; and the matrix is now ready to have the metal plate cast thereon, leaving the blank depressions which are thereafter to receive the engravings.

Exhibit 8 is a photograph of the form, having the matrix therein ready for the casting of the metal. Exhibit 9 is a photograph which shows the reverse side of the matrix. Exhibit 10 is a photograph which shows the plate which has been made from the matrix, and illustrates the etchings which are of thin sheet zinc attached thereto so that the plate is ready to be used in the printing operation. 130

When the applicant's specification and the claims here on appeal are considered, it is believed that the foregoing gives a complete explanation of the benefits which are obtained by practicing the invention.

THE PRIOR ART

The examiner is relying on four prior art patents which the examiner is using in combination, contending that the patent to which Horgan shows the general idea and then pointing out that the other features of the claims are suggested in the three patents which are used as secondary patents to be combined with the teachings of Horgan.

It seems obvious that if it is necessary for the examiner to rely on four patents, appropriating parts from each in order to fabricate an anticipation for the applicant's claims, obviously invention is involved and the examiner as a matter of fact is merely taking the pattern of the applicant's disclosure and fitting into it piecemeal the minute details from the four prior patents. The examiner is not entitled to make up a mosaic of this sort and contend that it constitutes an anticipation of the applicant's claims, and this is particularly true where the invention has gone into widespread and successful use. At the present time more than 300 newspapers throughout the United States have adapted and are using the combination of the present invention.

The patent to Horgan shows that he intends to use a thick plate such as C of Fig. 3, which plate is curved when it is made. He then intends to solder this plate, which has been engraved upon the curved printing plate, in
131 the manner shown, by holding the engraved plate
in position and applying sufficient heat to cause the melting of a sheet of solder foil so as to solder the engraved plate to the curved type plate.

The applicant has found such a procedure to be entirely unsatisfactory for any commercial use, first because a curved engraved plate is difficult to make; the curvature required to fit the cylinder is also difficult to obtain; and furthermore, the solder hardens and crystallizes and in actual operation has been found to brake loose and results in damage to the press. The applicant has conducted tests in accordance with the disclosure of Horgan and has found that the engraved plates would not remain in position even when the press was run at much slower speeds than ordinarily employed. The plates actually came off and resulted in substantial damage.

The applicant, therefore, submits that after careful reading of the Horgan patent, he finds no teaching of his invention therein. Attention is also directed to the fact that the Horgan patent has now been before the public for a period of forty-five years. None of those skilled in the art appreciated that it could be used in the manner of the applicant's process, and it has not been so used. If it were so obvious to utilize the disclosure of Horgan for the purpose of the applicant, it seems odd that the industry did not take up the direct printing process first utilized and disclosed by the applicant until after the applicant

was using the same, and the distribution of the newspapers where the prints were made in accordance with the process distributed. This distribution attracted widespread attention, and the applicant has literally
132 dozens of letters of inquiry as to how such clear pictures were being made and asking for further information.

Specifically, the Horgan patent gives no suggestion whatsoever of the thin flexible engraving plate which is called for by each and every one of the claims brought up to the board on appeal, so that as a matter of fact Horgan lacks the suggestion of the thin flexible plate which can be adhesively applied and remain in place for long periods of time on a rotary press travelling at high speed.

The only suggestion of a thin plate which the examiner has been able to find is the engraved plate of McGovern, but McGovern gives no suggestion of applying such a thin plate to a curved casting, but instead applies it to a wooden block, as clearly disclosed in his patent. Where then does the examiner obtain any teaching in the prior art as to how a thin flexible engraved plate is to be applied to a depression of equal thickness in the cast type plate in such a manner by adhesive that it will operate satisfactorily? The soldering of Horgan is unsatisfactory, and McGovern could not be used with Horgan except after having taken advantage of the applicant's teachings.

The patent to Lowe concerns itself with a proper backing to insure a blank space in the stereotype plate. This is merely one detail of the applicant's combination; and inasmuch as there is no suggestion in either Horgan or McGovern for the use of the backing of Lowe, it would seem clear that the examiner has made up his rejection from whole cloth.

The patent to Sands suggests the use of a rubber
133 plate and appears to be irrelevant and immaterial as regards the claims on appeal.

In conclusion, it would seem that the suggestion for a practical and commercially successful combination is entirely lacking in the prior art patents; and certainly no one skilled in the art would or did think of making up the combination recited by the examiner from the four prior patents relied upon.

It seems obvious that the examiner obtained his teaching in the disclosure of the applicant and that has hindsight far exceeded the foresight of any of those skilled in the art.

THE CLAIMS ON APPEAL

The applicant has brought here on appeal eight claims which are believed to clearly define the contribution of the applicant which has resulted in successful and widespread use. Horgan is the only patent which in any way aproaches the combination of the applicant, but Horgan obviously lacks the thin flexible sheet metal engraved sheet which is called for in one form or another in each of the eight claims. The examiner, therefore, in order to work up any semblance of a rejection whatsoever, is required to reach out in thin air and appropriate from McGovern the thin sheet of engraving; but even so, McGovern does not teach Horgan how to curve this thin sheet and use it on a circular type of casting. Looking around still further for this suggestion, the only thing that the examiner is able to find is the rubber sheet of Sands; but obviously, this is of little consolation to the examiner because he could
hardly take the rubber sheet of Sands and apply suf-
134 ficint heat to it with the gas iron of Horgan in an
effort to apply it to the circular roll of Horgan.

In other words, the examiner would have to rebuild Horgan completely in order to utilize the features which are called for in the applicant's claim.

It is respectfully asked that the Honorable Members of the Board merely read the examiner's explanation of how he intends to reject claim 1, which is found in the second full paragraph on page 5 of the examiner's statement. This explanation shows on its face that the patents lack the combination of the claim, and it is necessary for the examiner to excuse one patent after the other as to its shortcomings.

Claims 2, 3, and 4 stand rejected on Horgan, and the examiner admits in his rejection that Horgan lacks the adhesive uniting of a thin flexible plate with the stereotype, but he hedges this rejection and brings in Sand and McGovern to bolster his position. As indicated above, however, obviously the combination of these claims is lacking in the prior art.

Claims 5 and 6 stand rejected on Horgan when considered in view of Sands and McGovern, but the examiner admits that Horgan does not show the combination and he must rely upon the other patents, but even with such an assembly the examiner lacks the essential teaching of the combination of the thin flexible plate which is flexed and adhesively applied, because neither McGovern nor Sands suggest such a feature.

Claim 7 calls for the thin flexible engraving sheet per se, and it would not seem that McGovern suggests such a sheet because McGovern never intended to use his engraving sheet in the maner called for in the claims; that
135 is, where the sheet was to be curved and adhesively attached to a curved stereotype plate.

Claim 8 stands rejected on Lowe and Horgan, but only a casual inspection of this claim shows that neither Lowe nor Horgan suggests the thin flexible engraving or the adhesive attachment of it to the stereotype.

CONCLUSION

The exhibits presented with this brief show conclusively that the invention has gone into widespread use; and as indicated, more than 300 newspapers are using the same throughout the United States. Where the nearest prior art patent is forty-five years old, it would certainly appear, therefore, in view of the facts and circumstances, that the applicant had made a substantial contribution not theretofore suggested; and if those skilled in the art on some 300 newspapers in the United States were unable to devise the claimed process and apparatus with the prior art before them, it seems odd that the examiner, after having read the applicant's specification, can so readily concoct the combination from the prior art.

It is respectfully submitted that as valuable an invention as is here disclosed should be afforded protection when the claims distinguish over the prior art as do the claims on appeal.

Respectfully submitted,

LESTER B. CLARK
Counsel for the Applicant

* * * *

* * * *

Div. 17 Paper No. 10
190 Room 405
RAL:wmp

DEPARTMENT OF COMMERCE
UNITED STATES PATENT OFFICE
RICHMOND, VIRGINIA
BEFORE THE BOARD OF APPEALS.

In re application of
Arthur T. Blease
Serial No. 390,578
Filed Apr. 26, 1941
For: DIRECT PRINTING PROCESS
FOR ROTARY PRESSES.

MAILED
DEC 11 1943

EXAMINER'S STATEMENT

This is an appeal from the final rejection of claims 1 to 7 inclusive (all of the claims in the application at the time of the final rejection) and claim 8, submitted after the final rejection and entered for purposes of the appeal.

1. The method of preparing composite curved stereotype plates including cast captions and body type and thin flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the steps of, preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin flexible engravings of the thickness of the depressions, placing said matrix in a curved mold with spacer blocks on its rearward face opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of the mold, providing a thin flexible sheet metal

engraved sheet, casting a stereotype plate upon said mat, and thereafter pasting the thin flexible engraving sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface.

2. In the art of newspaper printing by the rotary method the method comprising the steps of preparing a thin, flexible etched engraving sheet for a picture to be printed, preparing a mat for casting a stereotype plate, said mat having blank depressed areas in which pictures are to be located, casting and finishing a curved stereotype plate from said mat, and thereafter adhesively attaching the thin flexible etched engraving sheet upon said plate so that rotary printing from the plate and direct from the engravings may be effected.

191 In the art of newspaper printing by the rotary method the steps of etching upon a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with a recessed area to receive said etched sheet, adhsively applying said thin, flexible sheet disposed within such recessed area so that the composite plate may be utilized for rotary printing.

4. In the art of newspaper printing by the rotary method the steps of engraving upon one surface of a thin, flexible metallic sheet a picture to be printed, casting a stereotype plate with type portions and recessed portions of a depth adapted to receive one or more of said engraved sheets, and thereafter adhesively securing said sheet or sheets within said recessed portions with the engraved surface thereof in a common cylindrical surface with the surface of the cast type thereon.

5. As a new article of manufacture a curved cast stereotype plate adapted to be secured to a rotary press cylinder, said plate including cast type portions and additional recessed areas, and thin, flexible engraved metal sheets adhesively secured in said recessed areas with the en-

graved surfaces thereof in a common cylindrical surface with the printing surfaces of said cast type.

6. A new article of manufacture comprising an arcuate, cast stereotype plate, said plate having cast portions thereon for direct printing therefrom and other portions recessed below said first mentioned portions, and thin, flexible etched normally flat engraving sheet bent around said plate and secured within said recessed portions.

7. A thin flexible engraving sheet having an engraving thereon, said sheet being thin and flexible to be curved and adhesively attached to a curved stereotype plate.

8. The art of molding a rotary press printing matrix from which stereotype plates are to be cast comprising the steps of providing a blank in said matrix which will form a depression space in the plate, such space being of the size and configuration of the engraving, and of a depth to receive a thin flexible engraving, whereby the engraving may be adhesively attached to the stereotype plate for printing.

192 The claims relate to a composite stereotype and engraved printing plate and to the method of forming the plate. Curved stereotype printing plates for newspaper presses are conventionally made by taking an impression of a type form in a soft matrix material and casting type metal against the matrix to produce a reproduction of the original form. The original frequently includes etched engravings of pictorial matter. Such engravings customarily are halftones made with 60 lines per inch screens and the large dots in the printed reproductions are objectionable. Stereotypes produced from engravings having finer screened images are unsatisfactory. The applicant proposes to produce a stereotype plate having recessed areas therein so that fine screen engravings may be secured in the recesses thus producing a composite plate.

Figure 1 of the drawings shows a type form to be reproduced having text matter 3 and an area 2 composed of filler blocks, of less height than the text type, corresponding to the area to be occupied by pictorial matter in the finished plate. An impression is made in matrix material 10 as shown in section in Fig. 3. The matrix is then placed in an arcuate form with the recessed portion corresponding to the pictorial area supported by a spacer member 21 as shown in Fig. 4. A casting is made with the matrix so supported to form a stereotype plate having the letters 19 cast therein and the remaining surface 18 recessed to receive the etched or engraved plate 25 as shown in Fig. 8. The depth of the recess is such that the surface of an engraving of suitable thickness lies in the plane of the type 19. The engraving is secured in the
193 recess by a suitable adhesive. It is stated that en-
graved plates of small thickness minimizes the difficulty of bending such plates to conform to the curvature of the printing cylinder.

The following references were relied upon in the final rejection of claims 1 to 7 inclusive.

Lowe	1,967,444	July 24, 1934
Horgan	620,133	Feb. 28, 1899
McGovern	843,483	Feb. 5, 1907
Sands	2,229,133	Jan. 21, 1941

The patent to Horgan discloses a method of securing an engraved plate to a stereotype plate to permit the use of engraved plates on flat web printing presses. The type form is prepared with a block or dummy inserted therein having a surface corresponding in size to the size of the engraved plate to be inserted. The dummy is of such height that the face of the engraved plate will be type high when placed upon it. A matrix is made from the type form and a stereotype is cast from the matrix. B represents the depressed area in the stereotype to receive the engraving. The engraving C is secured in the recess by a soldering operation.

The patent to Lowe discloses a method of casting curved stereotype plates having large non-printing or recessed areas in which a spacer 1 is placed in the casting box to support such areas of the matrix so that the depressions will be of uniform depth in the cast stereotype.

The patent to McGovern discloses an engraved plate secured to a base by adhesive. It is stated that plates of twenty-two gauge, or approximately of half the thickness of standard 16 gauge (0.0625 inch) may be supported in this manner.

194 The patent to Sands discloses a thin rubber plate secured to a cylindrical support by adhesive.

Claim 1 is considered to be unpatentable over Horgan in view of Lowe, Mc Govern and Sands. This claim reads on the method disclosed by Horgan except for the step of using a spacer in the casting operation to provide for a depression of uniform depth in the stereotype and the step of adhesively securing a thin flexible engraving in the depression by adhesive. The patent to Lowe contains a full disclosure of the process of using spacer members with a stereotype casting matrix to provide for depressed areas of uniform depth in the stereotype and no invention is seen in using the expedient shown in the reference for a similar purpose in casting the Horgan plate. It is considered to be obvious to use a thin engraved plate if the plate is to be flexed and the step of attaching such a thin plate to the stereotype of Horgan by a soldering operation is considered to be the equivalent of the applicants step of adhesively uniting the engraving in its recess. Also the patents to Sands and McGovern disclose it to be old to secure flexible plates to flat and curved surfaces by adhesive.

Claims 2, 3 and 4 read on Horgan except for the step of adhesively uniting the thin flexible plate in its recess in the stereotype and are considered not to be patentable over this reference alone or in view of Sands and Mc Govern.

Claims 5 and 6 are drawn to the composite plate and the plate shown by Horgan having the engraving soldered in place is considered to be the equivalent of the article claimed. In any event it is not considered to involve invention to secure the engraving of Horgan to its base by means of adhesive in view of the disclosure of Sands and Mc Govern.

195 Claim 7 is considered not to be patentable over Mc Govern. The engraving disclosed in this reference in made on a zinc sheet sufficiently thin to be cut by a tinsmiths shears and necessarily would be flexible and adapted to be used in the manner called for in the claim.

Claim 8, submitted concurrently with the appeal, is considered to be indefinite and to be unpatentable over Lowe and Horgan. The claim calls for "steps" yet positively includes only the single step of providing a blank in a matrix which will form a depression space in a cast plate and both Lowe and Horgan show this step. The recess in the plates of both references are adapted to receive engravings in the manner called for in the claim.

It is submitted that the claims in the application are unpatentable over the references for the reasons given above.

Leon W. Slabecker
Examiner

* * * *

July 17 1944

U. S. PATENT OFFICE

BOARD OF APPEALS

Appeal No. 49,557 MP

IN THE UNITED STATE PATENT OFFICE

BEFORE THE BOARD OF APPEALS

Ex parte Arthur T. Blease

Application for Patent filed April 26, 1941, Serial No. 390,578. Direct Printing Process for Rotary Presses.

Lester B. Clark for applicant.

This is an appeal from the decision of the Primary Examiner of Division 17 finally rejecting claims 1 to 8, inclusive, which are all of the claims now in the case.

Claim 1 is fairly illustrative of the invention, although other claims are drawn to the stereotype plate and others to the art of printing:

1. The method of preparing composite curved stereotype plates including cast captions and body type and thin flexible engravings for direct printing therefrom in the rotary printing of newspapers comprising the steps of, preparing a matrix having type impressions therein and depressed smooth areas to be occupied by the thin flexible engravings of the thickness of the depressions, placing said matrix in a curved mold with spacer blocks on its rearward face opposite said depressed areas so that the matrix in said areas is held a predetermined distance from the surface of the mold, providing a thin flexible sheet metal engraved sheet, casting a stereotype plate upon said

mat, and thereafter pasting the thin flexible engraving sheet upon the surfaces formed by said areas so that the printing surface of the cast type and said engraving sheet lie in a common cylindrical surface.

No. 49,557

197 The references relied on are as follows:

Lowe	1,967,444	July 24, 1934
Horgan	620,133	Feb. 28, 1899
McGovern	843,483	Feb. 5, 1907
Sands	2,229,135	Jan. 21, 1941

We have carefully considered the claims in the light of the references and the examiner's statement and applicant's presentation and argument in respect thereto. However, it is our opinion that the examiner has properly applied the references to the claims and that the claims are unpatentable over the references for the reasons stated by the examiner.

The decision of the examiner is affirmed.

Henry Van Arsdale
Assistant Commissioner
V. J. Richard
Examiner-in-Chief
E. F. Klinge
Examiner-in-Chief

BOARD OF APPEALS

July 17, 1944

Lester B. Clark
2200 Gulf Bldg.
Houston, Texas

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THE SCRANTONIAN — THE SCRANTON TRIBUNE
Scranton's Only Sunday Newspaper
145 Scranton's Oldest Daily Newspaper
SCRANTON, PA.

July 17, 1942

Mr. E. C. Bliss,
Corpus Christi Caller
Corpus Christi, Texas.
Dear Mr. Bliss:—

Mr. Robert Travis, of Comic Sections and Color Production, of New York, has recommended that I write you in regard to the new process that you have worked out to fix a 30 thousandths zinc plate to a stereotype cast.
Will you be so kind as to tell me how you accomplish this fact?

We will appreciate greatly hearing from you and will return the favor if we ever have the opportunity.

Yours very truly,
Herman S. Sandman

* * * *

THE OGDEN
142 STANDARD EXAMINER
ESTABLISHED 1870
Ogden, Utah

Pltf No. 13 Civil Action No. 27-342 Blease vs Ooms.

Filed
Oct 7 - 1946
CHARLES E. STEWART, Clerk

November 28, 1941

Mr. Art Blease, Mechanical Suerintendent
Caller Times
Corpus Christi, Texas

Dear Mr. Blease:

Your friend, Wallace Granger, dropped in the office yesterday and we were discussing the insertion of cuts so you could print direct from the cut instead of stereotype plate. He said you had been very successful in this work at your plant and suggested I write you and that you would gladly give me such information as would be helpful.
We are particularly interested in getting the front page of our society section to print better than the ordinary stereotype plate does.

I would appreciate it very much if you would send me one of your mats, an old engraving zinc plate and an issue of your Sunday edition. Will you kindly give me as much detail as possible so I can work out the same plan in our plant.

I might say in passing, we have twin tubular Duplex 16 page unit presses.

Kindly bill us on any extra expense or any expense at all you may show in giving us this information.
I assume after talking with Mr. Granger that you use a 27 gauge zinc plate and use adhesive tape or some other tape to anchor your plate on dummy stereotype plate.
Anything you may be able to do to set us right will be appreciated by the undersigned.

Yours truly,

LEONARD G. DIEHL
Leonard G. Diehl

General Mgr.

LGD:MD

* * * *

THE HOUSTON CHRONICLE
143 HOUSTON, TEXAS

February 25, 1941

OFFICE OF
J. H. BUTLER
BUSINESS MANAGER

Mr. A. T. Blease
Corpus Christi Caller-Times
Corpus Christi, Texas

Dear Mr. Blease:

I have heard a great deal about your process of printing direct from the cuts on your cylinder presses, and wonder if you would mind sending me one or two of your recent issues, showing some of the pages printed from this process.

I am particularly interested in seeing some reproductions of illustrations, and would like to get something that is printed on your regular run of paper.

Assuring you of my appreciation for this cooperation, I am

Cordially yours,

J. H. Butler
Business Manager

* * * *

THE AMERICAN-STATESMAN
144 Morning -:- Evening -:- Sunday
Austin, Texas

January 30, 1941

Mr. A. T. Blease, Supt.
The Caller-Times,
Corpus Christi, Texas.

Dear friend Blease:

Hope everything is going fine for you and Mrs. Blease.

Our managing editor, Mr. Green, was down your way a short time ago, and was impressed with the results you were getting with the direct half tone printing. Would you please send me all the details, prices, etc.

We are looking forward to the Fort Worth meeting. Hope to have a good visit with you there.

Yours
LEW FAIRES

LF-p

• • • •

THE SOUTHWEST MAGAZINE
146 THE SOUTHWEST MAGAZINE CO., (Inc.)
Publishers
W. N. BEARD, President and General Manager
709-715 Jones Street
Phone 2-3391
FORT WORTH, TEXAS

October 13, 1942

Mr. Roy Miller,
c/o Caller-Times,
Corpus Christi, Texas.

Dear Mr. Miller:

I have been informed that Caller-Times prints half-tone cuts on press by inserting original cuts in stereotype plates.

Will you please tell us the process that enables your stereotyper and pressman to do this?

Yours truly,

SOUTHWEST MAGAZINE CO.,

By W. N. Beard
W. N. Beard, Manager.

* * * *

BEAUMONT ENTERPRISE

147 Morning

BEAUMONT JOURNAL

Evening

THE SUNDAY ENTERPRISE

THE ENTERPRISE COMPANY, PUBLISHERS

ALFRED JONES
EDITOR-IN-CHIEF

E. C. DAVIS
BUSINESS MANAGER

Beaumont, Texas

January 17, 1941.

Mr. A. T. Blease,
Mechanical Superintendent
Corpus Christi Caller & Times,
Corpus Christi, Texas.

Dear Friend Blease:

Regarding our chat in Lufkin the other day about your process of printing from original etchings, I did not get all of the particulars and would like for you to furnish me with some additional information.

Do you curve your etchings in your shaver? What thickness zinc do you use? What adhesive, or glue, do you use to stick the zinc to the plate? Do you paste the cardboard on the face of the mat, or on the back?

I would like very much to use your process here on our papers, and as you indicated you had applied for a patent, it might be well for you to give us permission to use this process until further notice from you.

If it is not too much trouble, I should like to hear from you by return mail.

Many thanks, and looking forward to seeing you at the Fort Worth conference, I remain

Your friend,

J. C. POLLOCK
J. C. Pollock,

Press Room Superintendent.

ga

* * * *

Houston, Texas

148 Jan-27-41.

Mr. A. Blease,
Dear Friend Art,

Just a few lines to let you know Mr. Maes has fell for that Society Page of Yours & he wants Buster Weirs & I to come up & see how you do it.

I talked to him some time ago about it but he wasn't interested at that time but now he is. so if you will let me know when you cast & run that Page we will take a run up & see you.

Let me know as soon as possible. With best regards to you & the Mrs.

JOE H. KIEGANS
c/o Ho. Post

* * * *

COLUMBIA DAILY TRIBUNE

149 COLUMBIA, MISSOURI

March 11, 1941.

H. J. WATERS,
Editor and Publisher

J. A. PROCTOR, JR.,
Advertising Manager

M. D. JETT,
Business Manager

Member Audit Bureau
of
Circulations
Full Leased Wire
Associated Press
News Service

Mr. A. T. Blease, Mech. Supt.,
Caller & Times,
Corpus Christi, Texas.

Dear Mr. Blease:

On a recent visit to our office Mr. John McDonald of the Certified Mat Company told us about your process whereby it is possible to print direct from zinc plates by means of attaching the zinc plate to the stereotype cast with electrotype tape.

If it is not too much trouble I would appreciate very much your giving us some information about the process and how it works with Duplex tubular equipment. Also what material is necessary and where this material can be purchased.

Thanking you for this favor, I am

Sincerely yours,

H. J. WATERS
H. J. Waters, Publisher.

* * * *

THE HERALD PUBLISHING COMPANY
150 publishers of
THE DENISON DAILY HERALD
331 West Woodard Street
Denison, Texas

March 7, 1941.

Mr. A. T. Blease,
The Caller-Times,
Corpus Christi, Tex.

My Dear Blease:

This will introduce you to Fred Badgett of our press room, who is anxious—for the mutual good it will do him and this newspaper—to see some of your pressroom operations, particularly in connection with printing of 100-line pictures on that process you've worked out.

Mr. Harte has been anxious for us to try it out on this paper and has said he could make the engravings for us as well as supply the ''tape'' or whatever he calls that stuff you stick them on with.

Whatever you can show Fred about it will be appreciated very much, and maybe we can reciprocate sometime. Fred is a hard worker, anxious to take advantage of any new printing process, and wants to bring back to us something on this direct printing plan of yours.

Please give my best regards to Conway; and, the first time you are in Dallas, come up and see this newest edition to our group of papers. After you get the new press in down there you'll need a rest, so come up!

In the meantime, any courtesies you can show Fred will be appreciated.

Sincerely,

MILLARD COPE
Millard Cope, publisher.

* * * *

VALLEY MORNING STAR
151 published by
THE VALLEY PUBLISHING COMPANY
Harlingen, Texas

April 18, 1941

Mr. Blase

CORPUS CHRISTI CALLER TIMES

Corpus Christi, Texas

Dear Mr. Blase:

We are interested in trying the direct printing of half tones by your method.

Although we have the zinc tape, Mr. Van R. Wiggins advises that I see you before trying the process.

Will you please advise me as to the time I may see you, whn it is convenient with you?

Very truly yours,

THE VALLEY MORNING STAR

NOEL ELLIS
Noel Ellis
Shop Room Foreman

* * * *

HARPER STANDARD
ENGRAVING COMPANY
Phones 7-5385--7-5386—P.O.Box 1016
1611-15 Royal Street
Dallas, Texas

August 6, 1941.

Mr. Millard Cope, Publisher,
The Herald,
Denison, Texas.

Dear Mr. Cope:

When I was in Denison about two months ago you showed me one of the thin cuts made with an 85-line screen which you were placing on your stereotypes and using for direct printing from the plates themselves without stereotyping the halftone cuts. (Some people call these ALL-tones, but that is not the correct name for them as ALL-TONES require solid steel bases and you have to pay a royalty, I believe, to use the process. We call the kind of cuts you use FINETONES.)

We have been making a few of these and the users and prospective users have been asking us some questions that we cannot answer definitely. They want to know what kind of glue to use to attach the cuts to the stereotypes? They want to know how to build up their form so as to leave a place on the full-page stereotype for the FINE-TONE cut. Do you build up the form with furniture and place matboard or cardboard in the space where you want the FINETONE to go? Or, do you put the cardboard on the matboard when casting?

If you will give me this information, I will appreciate it very much and will pass it on to some editors who are having problems.

I am sending out a folder in a few days, advertising FINETONES and quoting prices on them. I will appreciate it if you will read this folder over when it arrives. We can serve you faster than the San Angelo firm, and if you find our prices right, we will appreciate some of your orders.

I will certainly appreciate the information requested above. It may prevent me from steering some publisher wrong.

Yours truly,

Jack Harper

Harper Standard Engraving Co.

FILED
162 JUL 30 1946
CHARLES E. STEWART, Clerk

BLEASE v. OOMS — Civil Action No. 27,342.

A — Horgan,	620,133
B — McGovern	843,483
C — Lowe,	1,967,444
D — Sands,	2,229,133
E — Upshaw,	1,976,640
F — Buschmann,	1,829,085
G — Rohland,	2,213,568
H — Just, British,	329,588
I — Print of Drawings,	
J — Examiner's Statement,	
K — Decision of the Board of Appeals.	

No. 620,133. **Patented Feb. 28, 1899.**

S. H. HORGAN.

METHOD OF AND APPARATUS FOR SECURING ENGRAVED PLATES TO STEREOTYPES.

(Application filed Oct. 21, 1897.)

(No Model.)

Fig. 1.

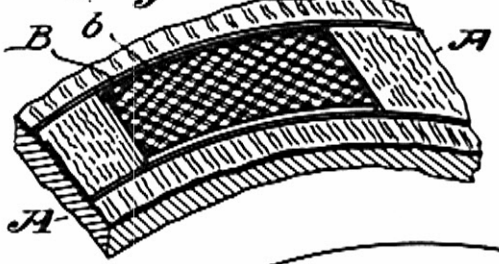
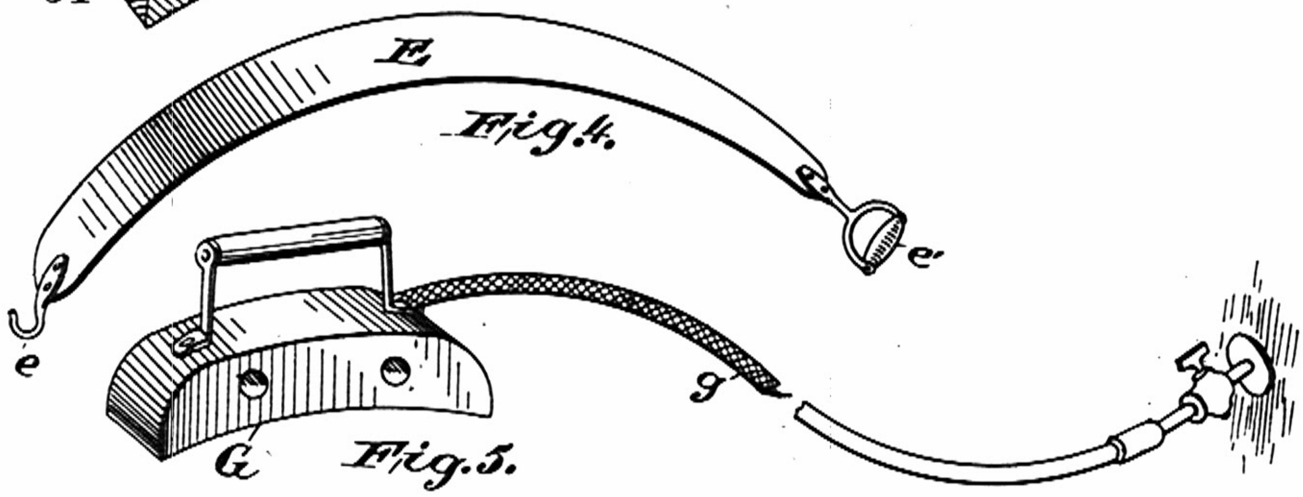
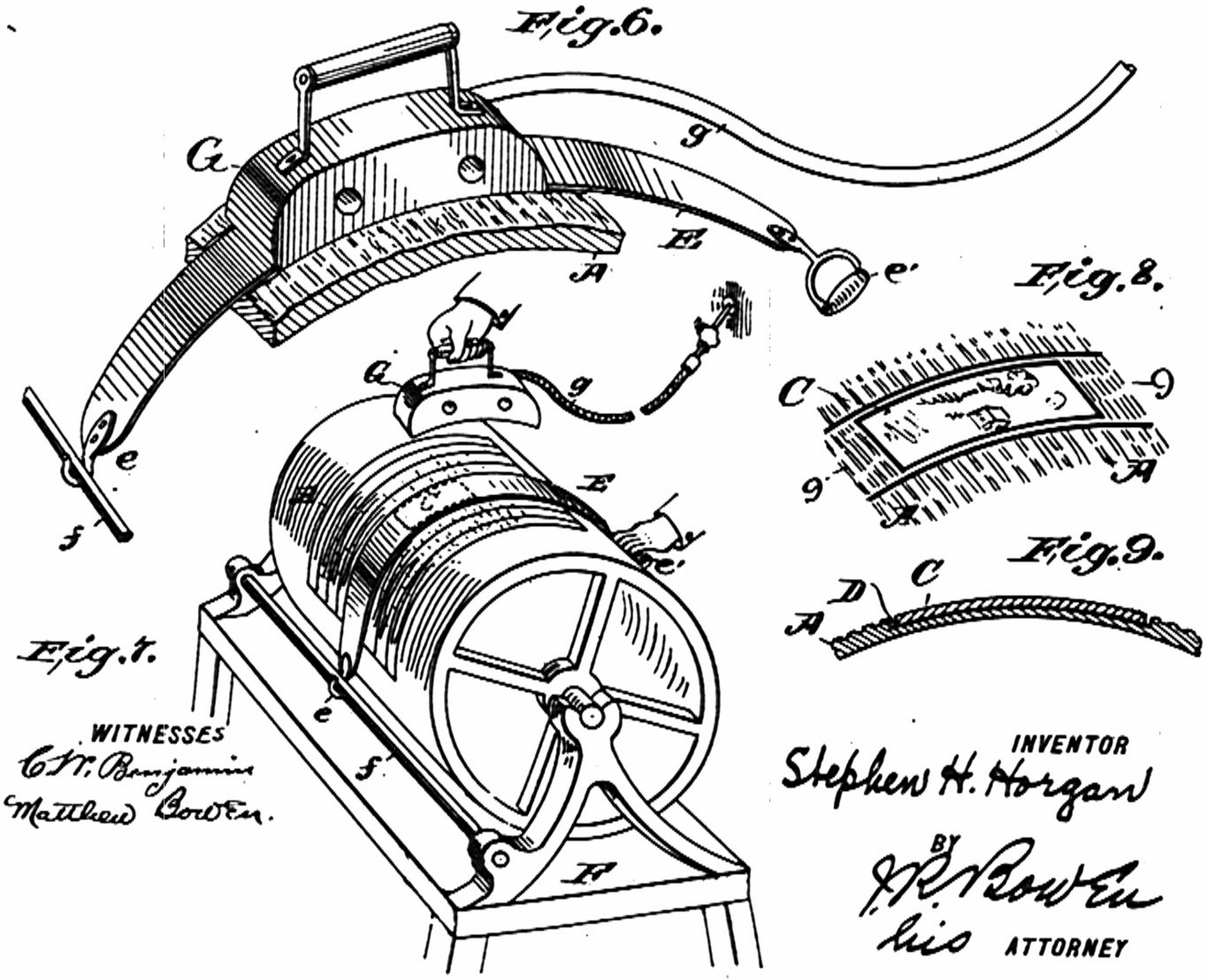


Fig. 2.

Fig. 3.





WITNESSES
C. W. Benjamin
Matthew Bowen.

INVENTOR
Stephen H. Horgan
BY
J. R. Bowen
his ATTORNEY

UNITED STATES PATENT OFFICE.

STEPHEN H. HORGAN, OF HOBOKEN, NEW JERSEY.

METHOD OF AND APPARATUS FOR SECURING ENGRAVED PLATES TO STEREOTYPES.

SPECIFICATION forming part of Letters Patent No. 620,133, dated February 28, 1899.

Application filed October 21, 1897. Serial No. 655,905. (No model.)

To all whom it may concern:

Be it known that I, STEPHEN H. HORGAN, a citizen of the United States, residing at Hoboken, in the county of Hudson and State of New Jersey, have invented a certain new and useful Improvement in Methods of and Apparatus for Securing Engraved Metal Plates to Curved Stereotype-Metal Casts, of which the following is a specification.

I will first describe my improvement in detail and then point out the novel features in the claims.

In the accompanying drawings, Figure 1 is a view of a fragment of a curved stereotype-cast. Fig. 2 is a view of a sheet of foil. Fig. 3 is a view of an engraved metal plate. Fig. 4 is a band of sheet metal provided at one end with a hook and at the other with a handle. Fig. 5 is a view of a heating-iron. Fig. 6 is a view showing a fragment of a curved stereotype-cast, a band extending over the engraved plate, and an iron imposed on the band. Fig. 7 is a view of a stereotype-cast on a saddle mounted on a bench and showing a band extending over that part of the cast where it is desired to secure an engraved metal plate with the iron away from the band. Fig. 8 is a view of a fragment of a stereotype-cast, showing an engraved plate secured thereto; and Fig. 9 is a section taken through the dotted line 9 9, Fig. 8.

Similar letters of reference designate corresponding parts in all the figures.

The type-form is first prepared as ordinarily, except that where an engraved plate is to be secured in a stereotype a block or "dummy" having a surface corresponding in size to the size of the engraved plate will be inserted. This block or dummy will be of such a height that with the engraved plate placed on it the face of the plate will be type-high, and the block or dummy may be furrowed on its upper surface. From the type-form thus prepared a stereotype papier-mâché matrix is made in the ordinary manner, and from this matrix a stereotype-metal cast is made in the usual manner. A designates a fragment of such a stereotype-cast, and B the portion of the cast to which the engraved plate is to be secured.

If the block or dummy used in the type-form is not provided with furrows, then furrows, as *b*, may be made in the stereotype-cast where the engraved plate is to be secured.

On the back of an engraved-metal plate, as C, curved to conform to the curve of the surface of the stereotype-cast I paste a sheet of solder-foil, as D, and apply a soldering paste or liquid to that part of the surface of the stereotype-cast to which the plate is to be secured. The soldering paste or liquid may of course be applied to the back of the plate before the solder-foil is pasted to the plate, and I may omit to apply the soldering paste or liquid either to the plate or to that part of the surface of the stereotype-cast to which the plate is to be secured. The engraved plate is then placed in its proper position on the stereotype-cast and held firmly in place while heat is applied to solder the plate to the stereotype-cast.

E designates a thin flexible metal band which I prefer to use for the purpose of holding the engraved plate in position during the operation of soldering it to the stereotype-cast. I prefer to make this band of sheet-copper, and one end of the band is provided with a hook, as *e*, by which it may be attached to a rod, as *f*, fastened to a bench, as F. The other end of the band E is provided with a handle, as *e'*, to be grasped by the hand of the operator, by which it may be held down firmly on the engraved plate.

G designates an "iron" to which gas passes through a flexible tube, as *g*. This iron has burners which may be lighted to heat the iron in a well-known manner. The under side of this iron conforms to the curve of the stereotype-cast. The iron G, being sufficiently heated, is pressed over the engraved plate C or over the metal band E, while the plate C is held in position in the stereotype-cast until sufficient heat has been transmitted to melt the film of solder-foil between the engraved plate and the stereotype-cast. When the solder-foil has melted, the iron G will be removed; but the engraved plate C will be held firmly in its place until it is "set," when it will be found that the engraved plate is firmly secured to the stereotype-metal cast.

I am aware that it is a common expedient to secure engraved plates in position by means of solder; but the process as heretofore practiced is imperfect in that the plates were merely seated in position and the ordinary method of soldering carried out. The band or shield E, employed in my process, is thin and flexible, so as to be drawn over the plate, thus pressing all parts snugly in position, and the iron being applied to it instead of directly to the plate preserves the latter against injury.

Instead of using the iron G, I may of course use any desired means for applying the heat necessary to melt the solder-foil, and instead of furrowing the stereotype-cast where the engraved plate is to be secured I may have the furrows on the back of the engraved plate.

It will be seen that by my improvement I am enabled to so firmly secure an engraved metal plate to a stereotype-cast as to permit of the use of engraved plates on fast web-printing presses.

The engraved plates may be rapidly and conveniently secured to the stereotype-cast while the cast is on the stereotype-saddle.

The furrows in the stereotype-cast underneath where the engraved plate is to be secured or on the back of the engraved plate, or both, will permit of the escape of steam which arises from the evaporation of the soldering paste or liquid while the solder-foil is being fused.

What I claim as my invention, and desire to secure by Letters Patent, is—

1. The method of securing an engraved plate to a curved stereotype-cast, consisting in placing between the engraved plate and the stereotype-cast a sheet of solder, subjecting the exterior of the plate to a heated iron for fusing the solder, and binding the engraved plate in close contact with the stereotype-cast while the solder is being fused and until it has hardened after it has fused, substantially as specified.

2. The method of securing an engraved plate to a curved stereotype-cast consisting in attaching solder to the back of the engraved plate, placing the engraved plate in position on the stereotype-cast, binding a flexible shield over the outer face of the plate, subjecting the same to the action of a heated iron for fusing the solder, substantially as specified.

3. The method of securing an engraved plate to a curved stereotype-cast, consisting in providing one of the meeting faces with furrows, placing the engraved plate in position on the stereotype-cast with a sheet of solder between the plate and the cast, and against the furrows, and fusing the solder, substantially as specified.

4. The combination with a stereotype-cast, adapted to receive a plate, as C, of means for supporting the said cast, and a flexible strap connected at one end to the support and adapted to be bound upon the said plate C, and means for applying heat to the exterior of said strap.

5. The combination with a suitable support, and bearing-standards rising therefrom, of the stereotype-cast journaled in the standards, a bar connecting the standards, the flexible metal strap E, the same being provided with a hook at one end for loosely engaging the said bar, and at its opposite end with a handle, and means for applying heat to the exterior of the said strap.

STEPHEN H. HORGAN.

Witnesses:
M. BOWEN,
J. R. BOWEN.

No. 843,483. PATENTED FEB. 5, 1907.

L. McGOVERN.

PRINTING BLOCK.

APPLICATION FILED NOV. 27, 1903.

Fig.1.

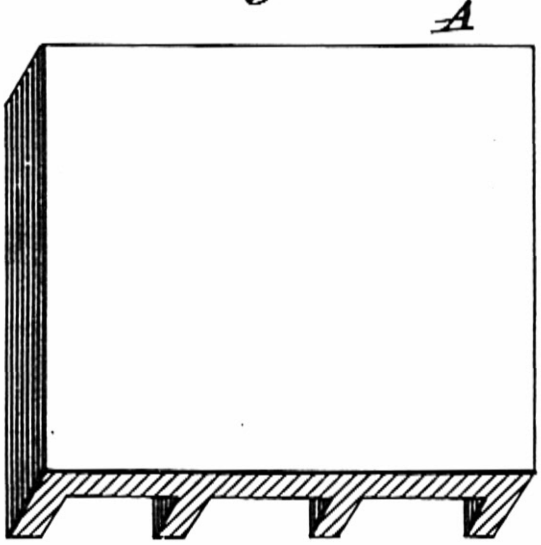


Fig.2.

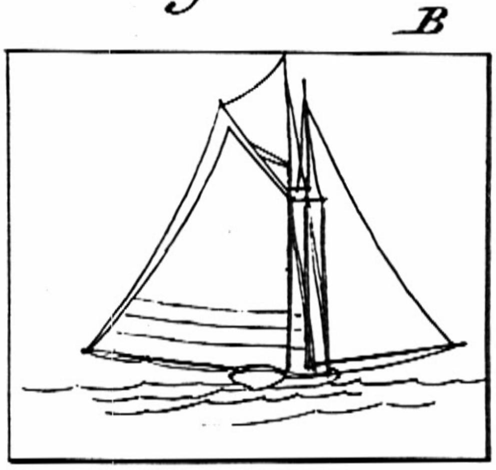


Fig.3.

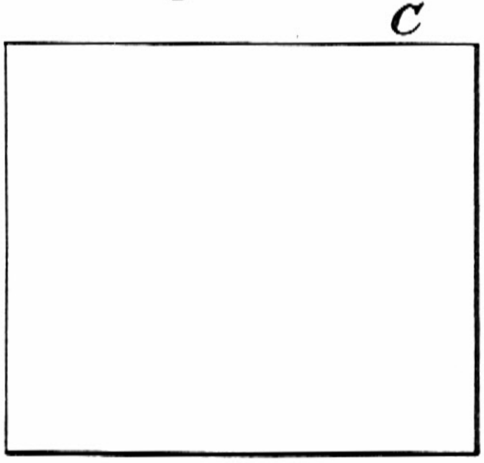
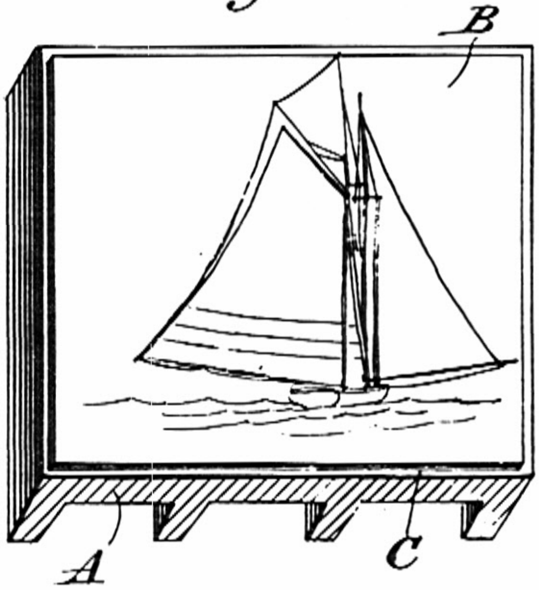


Fig.4.



Witnesses:
Mary H. Cobb.
Ella Waite Cobb.

Inventor
Lawrence McGovern.
by Sylvanus H. Cobb.
Atty.

UNITED STATES PATENT OFFICE.

LAWRENCE McGOVERN, OF BOSTON, MASSACHUSETTS.

PRINTING-BLOCK.

No. 843,483. **Specification of Letters Patent.** **Patented Feb. 5, 1907.**

Application filed November 27, 1903. Serial No. 182,873.

To all whom it may concern:

Be it known that I, Lawrence McGovern, a citizen of the United States, residing at Boston, in the county of Suffolk and State of Massachusetts, have invented certain new and useful Improvements in Printing-Blocks, of which the following is a specification.

My invention relates to the assembled plates and bases or mounts used in printing, which may be termed "blocks," it being particularly applicable to those employed in connection with photo-engraving plates or other similar plates which are secured to bases or mounts.

It has for its principal objects the features of construction and modes of precedure hereinafter described and more particularly claimed.

In the accompanying drawings, Figure 1 shows a base in perspective. Figs. 2 and 3 are top plan views of a plate and adhesive sheet, respectively; and Fig. 4 is a perspective view of the completed block.

Similar characters of reference indicate like parts throughout the several figures of the drawings.

In accordance with the old practice of mounting photo-engraving plates or the like, the matter of producing the printing-surface not being here considered, the plate is cut from sixteen-gage zinc by means of a circular saw, the edges are beveled on a beveling-machine, portions are cut from the surface on a routing-machine, holes are drilled in the beveled edges and routed surface, and the plate is then secured to a base, which may conveniently be of wood, but is sometimes of metal, by tacking or otherwise securing through the drilled holes. It is necessary to use this comparatively thick metal and cut it away at the points of attachment to prevent the heads of the securing means from printing. Moreover, if the plates were made of thin metal it would be liable to buckle between the points at which it is secured and break away from the tacks. In addition to the comparatively expensive machinery which is used in carrying out this method of mounting and the considerable time involved it is also objectionable in wasting about one-eighth of an inch around the entire plate in the beveled space, which is frequently very valuable, especially in a daily newspaper. In producing a block in accordance with my invention I preferably make the plate B of relatively very thin metal, twenty-two gage or even less, which may be readily cut with ordinary tinsmith's shears. A sheet C of gelatin or other suitable adhesive substance or a prepared paper or fabric coated with an adhesive is then cut to the size of the plate and, if necessary, is moistened and laid on the mounting-base A, which may be of wood, metal, or any desired material. The plate is then preferably warmed and imposed upon the adhesive and the whole subjected to pressure for a short time by means, for example, of some simple device, as a copying-press. The action of the moisture, heat, and pressure cements the plate to the base by means of the interposed adhesive, which will solidify rapidly and will render them a substantially unbroken block. The heat which, as above stated, is imparted to the plate acts to properly set the moistening adhesive, enabling it to be almost instantly removed from the press. This is of great importance in newspaper work in which speed is one of the first desiderata.

It will be seen that with my improved block exceedingly thin metal may be used and that the plate and base become uniformly united over the entire surface and without waste of margin. The method of producing this block requires nothing but the simplest tools and may be carried out very speedily and effectively.

My invention is of particular value in connection with blocks and plates to be employed in printing where the plate is subjected to high temperature after it has been secured to the block. Vegetable resins would be melted by this treatment, while gelatin is not thus affected and my improved block remains uninjured.

Having thus described my invention, I claim—

1. A printing-block comprising a base, a plate, and an intermediate sheet of an adhesive substance.

2. A printing-block comprising a base, a plate, and an intermediate sheet of gelatin.

In testimony whereof I have affixed my signature in presence of two witnesses.

LAWRENCE McGOVERN.

Witnesses:

James F. De Long,

Wm. J. Sullivan.

July 24, 1934. H. J. LOWE 1,967,444

SPACE PACKING FELT

Filed July 8, 1931

Fig. 1.

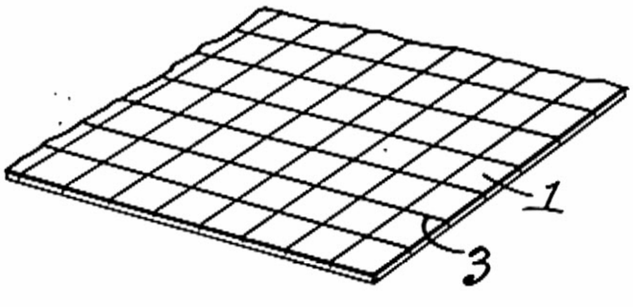


Fig. 2.

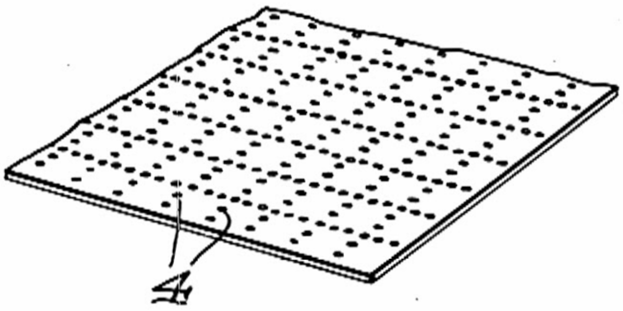


Fig. 3.

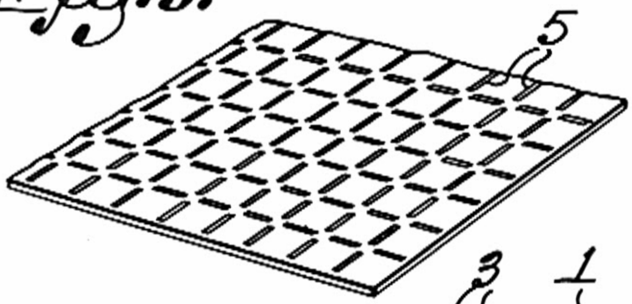


Fig. 4.

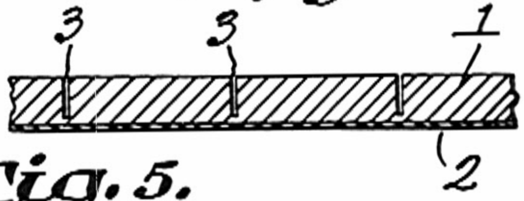


Fig. 5.

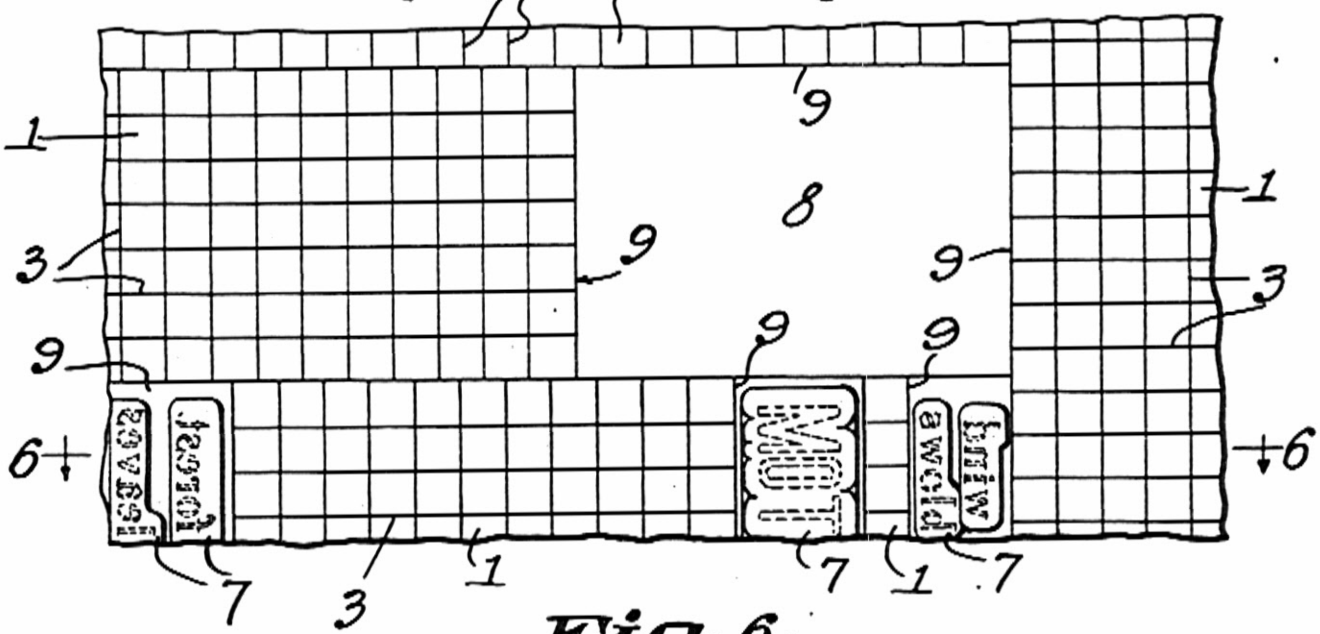
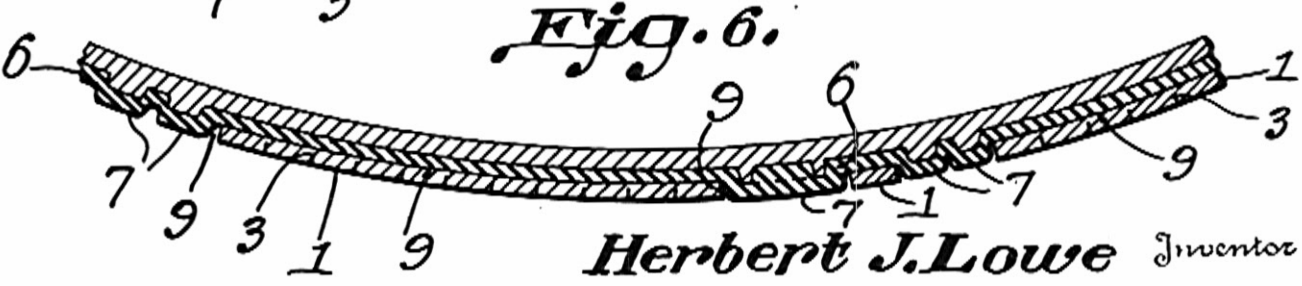
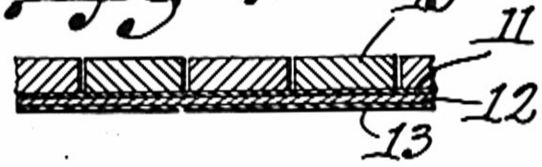


Fig. 6.



Herbert J. Lowe Inventor

Fig. 7.



By C.A. Snow & Co.

Attorneys.

UNITED STATES PATENT OFFICE

1,967,444

SPACE PACKING FELT

Herbert J. Lowe, Galesburg, Ill.

Application July 8, 1931, Serial No. 549,513

1 Claim. (Cl. 154—45.5)

This invention relates to space packing felt such as used in the art of printing.

In the formation of stereotype plates it is necessary to place a mat in a casting box and subsequently pour the molten metal so as to fill the impressions in the mat and produce a plate of the required shape having the desired raised printing faces.

It frequently happens that the mat provides for extensive blank spaces on the printed surface and where these spaces are to be produced the mat is formed with areas of proper shapes and proportions which are free from impressions. Unless these portions of the mat are provided with some kind of firm packing they will tend to bulge or sag under the weight of the metal being supplied to the casting box. Consequently the depression formed in the stereotype plate will not be of uniform depth but will be provided with raised portions which will tend to make impressions, thereby producing what are commonly known as "nigger heads" in the spaces which should be kept clear. Plain strips of backing or spacing felt have been used for filling the spaces mentioned. These have been torn into pieces approximately of the required shapes and sizes and affixed to the mat by an adhesive. This procedure has been satisfactory when the printing has been done with a flat plate. However when a tubular or semi-cylindrical press is operated some difficulties are encountered. For example, if large space cavities in the mat are to be backed, the felt must be affixed to the mat at the proper places in narrow strips or small pieces. Unless these portions of felt are arranged along lines parallel with the axis about which the mat is to be bent they will act to stiffen the mat to an undesirable extent when placed in the casting box and cause the formation of an imperfect stereotype. Obviously in order to apply a number of narrow strips or small pieces in this manner within the space cavities a considerable time is consumed and expert service is required. All of this greatly increases the cost of producing a plate.

It is an object of the present invention to provide a spacing felt which can be produced in large sheets and cut or torn quickly to form a single piece for filling a large space cavity, the felt being so made that it will not add undesirable rigidity to the mat when bent to proper shape for casting.

Another object is to form the sheet material so that it can be quickly torn to the desired shape and proportions.

With the foregoing and other objects in view which will appear as the description proceeds, the invention resides in the combination and arrangement of parts and in the details of construction hereinafter described and claimed, it being understood that changes in the precise embodiment of the invention herein disclosed may be made within the scope of what is claimed without departing from the spirit of the invention.

In the accompanying drawing the preferred form of the invention has been shown.

In said drawing:

Figure 1 is a perspective view of a portion of a sheet of spacing felt having the present improvement.

Figure 2 is a similar view showing a modification.

Figure 3 is a view of another form.

Figure 4 is an enlarged section through a portion of the sheet shown in Figure 1.

Figure 5 is a plain view of a portion of a curved mat having the space cavities backed by the material constituting this invention.

Figure 6 is a section on line 6—6, Figure 5.

Figure 7 is a section through a modified form of felt.

Referring to figures by characters of reference, 1 designates a sheet of ordinary spacing felt one side of which has a film 2 of adhesive. The other surface of the sheet is formed with crossed cuts or scores 3 which divide the sheet into rectangular outlines whereby the sheet can be readily bent or curved in either of two directions with the scores in the outer or convex face. Instead of weakening the sheet material by means of score lines, crossed lines of perforations 4 can be used or crossed rows of slits 5 can be employed. In these last two forms, illustrated in Figures 2 and 3, the sheet material, when bent along curved lines, will break partly through between the perforations or slits so that the opposite or coated surface can be fitted easily against a convex surface without adding undesirable rigidity thereto.

A mat has been shown at 6 in Figures 5 and 6 and, in addition to the impressions 7 formed therein by type or the impression 8 formed by a cut, there are extensive space cavities 9 extending around and between the backs of said impressions. These large space cavities must be filled with backing material before the metal is poured in the formation of a stereotype plate 10. Consequently while the mat is flat and inverted, the operator tears out the largest possible strips or portions of the sheet spacing felt and, after moistening the adhesive, applies it to the space cavities in the mat with the weakening lines of the material outside and extending longitudinally and transversely of the mat. Thus when the face of the mat is bent to fit properly in a curved casting box the sheet will flex along these weakening lines causing the scores 3 to gap or the outer surface of the material in Figures 2 and 3 to crack or break between the perforations or cuts.

While each cavity can be properly filled or backed, as explained, the material used for that purpose will not render the mat too rigid. Obviously the sheet material can easily be torn into small strips or squares for use in small cavities but the material is more especially advantageous because it can be placed in large pieces within large space cavities, thereby greatly reducing the time and labor otherwise consumed.

In figure 7 I have shown a felt made up of a number of squares or blocks of material indicated at 10 and arranged in rows as in Figure 1. These blocks are joined by an adhesive 11 to a sheet of soft, flexible paper 12 which can be torn easily and this sheet, in turn, has an adhesive film 13 for attaching it to a mat.

By forming the felt in this manner it can be torn easily to proper size without producing a rough or feather edge. The term "felt" used in this application is to be construed as applying to any kind of material which might be used for space packing.

What is claimed is:

Space packing felt for use on either flat or cylindrical surfaces of a mat comprising a sheet of material having crossed lines of weakening incisions in one surface, the other surface being freely bendable to concave form in either of two directions determined by said lines, and a layer of material upon the latter surface having an exposed adhesive surface.

HERBERT J. LOWE.

Jan. 21, 1941. **L. M. SANDS** **2,229,133**

APPARATUS FOR PRINTING

Filed Dec. 27, 1938

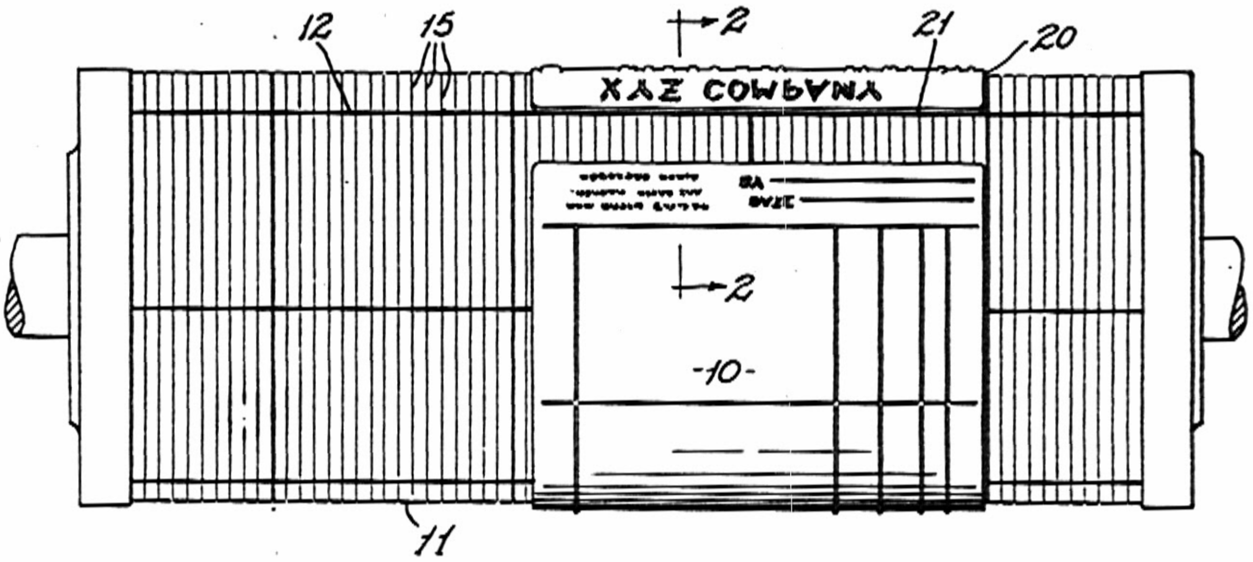


FIG. 1

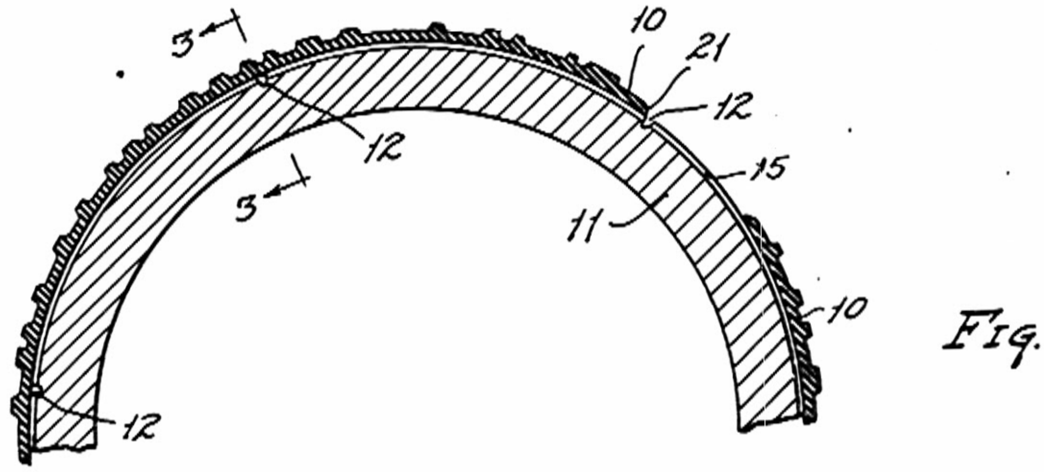


FIG. 2

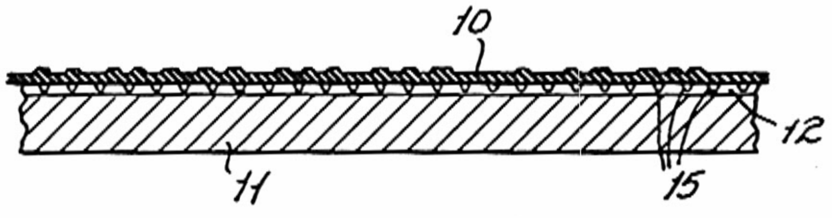


FIG. 3

INVENTOR.
LEO M. SANDS
BY
Bates, Golrick, & Teare
ATTORNEYS

Patented Jan. 21, 1941 **2,229,133**

UNITED STATES PATENT OFFICE

2,229,133

APPARATUS FOR PRINTING

Leo M. Sands, Norwalk, Ohio, assignor to The Rotary Printing Company, Norwalk, Ohio, a corporation of Ohio

Application December 27, 1938, Serial No. 247,819

1 Claim. (Cl. 101—383)

This invention relates to printing apparatus and particularly to means for enabling the use of rubber plates in a simple and expeditious manner.

Heretofore printing has been accomplished by the use of metallic plates but where multiple fanfold forms are printed absolute alignment is necessary to assure registration of the forms at the completion of the fanfolding operation. The practice therefore has been to mount the plates upon a cylinder and then to align them as near as possible with the use of measuring instruments and then to run test sheets through the press. Any misalignment of the plates must then be adjusted before the actual printing is started. This procedure however entails considerable time for completion of a satisfactory job.

An effort has been made to improve the quality of the printing produced by metallic plates and to this end, rubber plates have been devised, but so far as I know no adequately satisfactory means has been available for aligning the rubber plates and for preventing slippage of them with respect to the cylinder. The problem of slippage is important, particularly in connection with the manufacture of printed forms that are numbered in numerical sequence.

To align the metallic plates the practice has been to use attachments known as saddles but it was found that these did not work satisfactorily with rubber plates. Accordingly, although rubber plates produced a better quality of printing nevertheless, due to the difficulty of obtaining satisfactory adjustment, the make-ready time was not shortened.

The present invention has for its objects the retention of the advantages of rubber plates, and at the same time the elimination of the objection to the excessive time required for make-ready work. The present invention accomplishes the desired results, therefore, without the need for saddles that have heretofore been used in this art and in addition has reduced the make-ready time to a great extent, in fact, in some cases to the extent of about ninety percent.

Referring now to the drawing, Fig. 1 is a view showing a printing cylinder made in accordance with my invention and having rubber plates thereon; Fig. 2 is a section taken on the line 2—2 in Fig. 1 on an enlarged scale and Fig. 3 is a section taken on the line 3—3 in Fig. 2.

My invention is shown in connection with rubber plates **10** which have a backing of adhesive material for attachment to the printing cylinder, designated in general at **11**. The cylinder is provided with means for aligning the plates with respect to each other and for retaining them against movement with respect to to the cylinder after they have been positioned thereon. In the preferred arrangement the cylinder has parallel lines in the form of narrow grooves **12** extending in an axial direction along the plate receiving surface and has peripheral lines in the form of deep grooves **15**, preferably at regularly spaced intervals extending peripherally of the cylinder and throughout the length thereof.

The peripheral grooves, by receiving some of the adhesive material, provides for greater adhesion between the plate and the surface of the cylinder and thereby operate to hold the plate against movement upon the cylinder. The grooves also serve to align a longitudinal edge **20** of the plate with respect to the cylinder while the axially extending markings or grooves **12** provide a means for aligning one end edge **21** of the plate.

The adhesive material which has been found to be satisfactory is what is known in the trade as a permanently tacky adhesive which will cause immediate adherence of the plate to the cylinder upon application of the plate thereto.

In practice the rubber plates are provided with a backing of adhesive material of such consistency that the plate can readily be removed at the completion of the printing operation. Thus to make the press ready, it is only necessary to align one end as at **21** upon an axially extending groove **12** and to align a longitudinal edge **20** with one of the peripheral grooves **15**.

After the plates are aligned on the cylinder, they are pressed against the surface thereof and as a result, a rigid connection is made between the plates and the cylinder. As contact is made between the printing cylinder and the pressure rolls, the plates are more firmly pressed into engagement with the cylinder, and the force thus applied causes some of the adhesive to enter the grooves, thus more firmly holding the plates upon the cylinder. This effectively prevents shifting and enables numbered forms to be printed without the danger of shifting and without the resulting destruction of the desired sequence.

An important advantage of the present invention is the fact that the rubber plates can be put into accurate position the first time, thus reducing the make-ready time to a minimum. Additionally, by making the plates of uniform thickness, it is possible to eliminate any packing or other make-ready work that heretofore has been required in connection with the use of metallic plates. A further advantage is the fact that solid steel can be used as an impression cylinder, thus giving better printing qualities.

I claim:

In combination, a plate receiving cylinder having parallel lines formed thereon and extending axially thereof and also having parallel lines extending peripherally thereof and at regular intervals thereon, some of said lines comprising grooves, and a soft rubber printing plate, having a backing of permanently tacky adhesive material, mounted on the cylinder in a position to bridge some of said grooves which thus receive some of the adhesive, whereby under rolling contact the adhesive material is forced into the grooves to prevent the plate from shifting with reference to the cylinder.

LEO M. SANDS.

Oct. 9, 1934. G. S. UPSHAW 1,976,640

METHOD OF PREPARING ORIGINAL ENGRAVED PLATES
FOR PRINTING ON ROTARY PRESSES

Filed Oct. 27, 1930 2 Sheets-Sheet 1

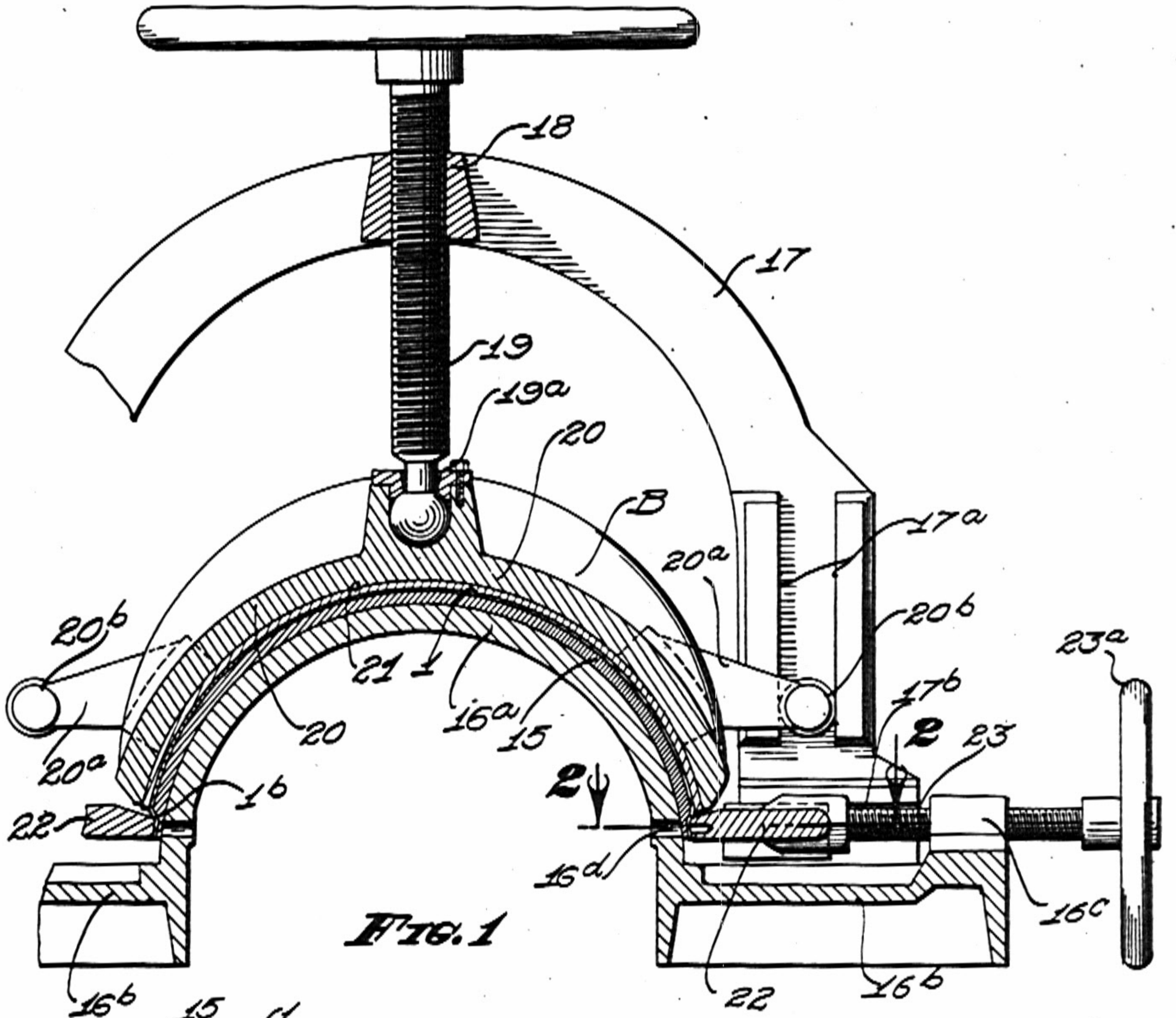


FIG. 1

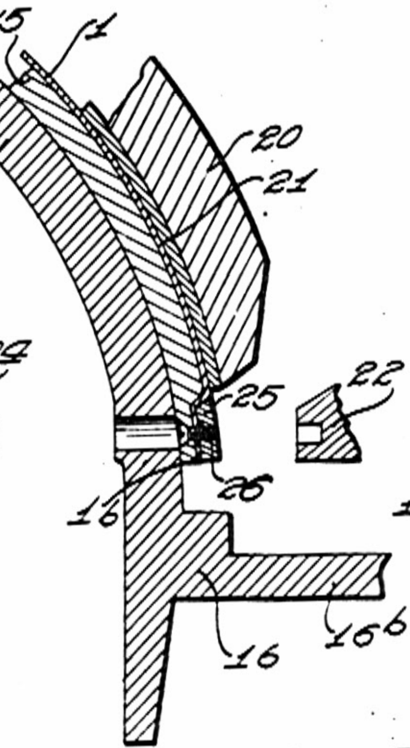


FIG. 3

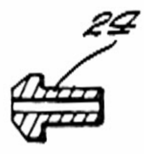


FIG. 4

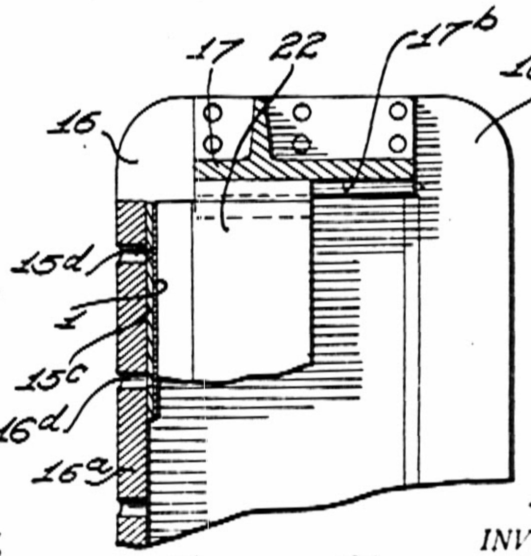


FIG. 2

INVENTOR.
GEORGE SHIRLEY UPSHAW
BY A. B. Bowman
ATTORNEY

Oct. 9, 1934. G. S. UPSHAW **1,976,640**

METHOD OF PREPARING ORIGINAL ENGRAVED PLATES
FOR PRINTING ON ROTARY PRESSES
Filed Oct. 27, 1930 2 Sheets-Sheet 2

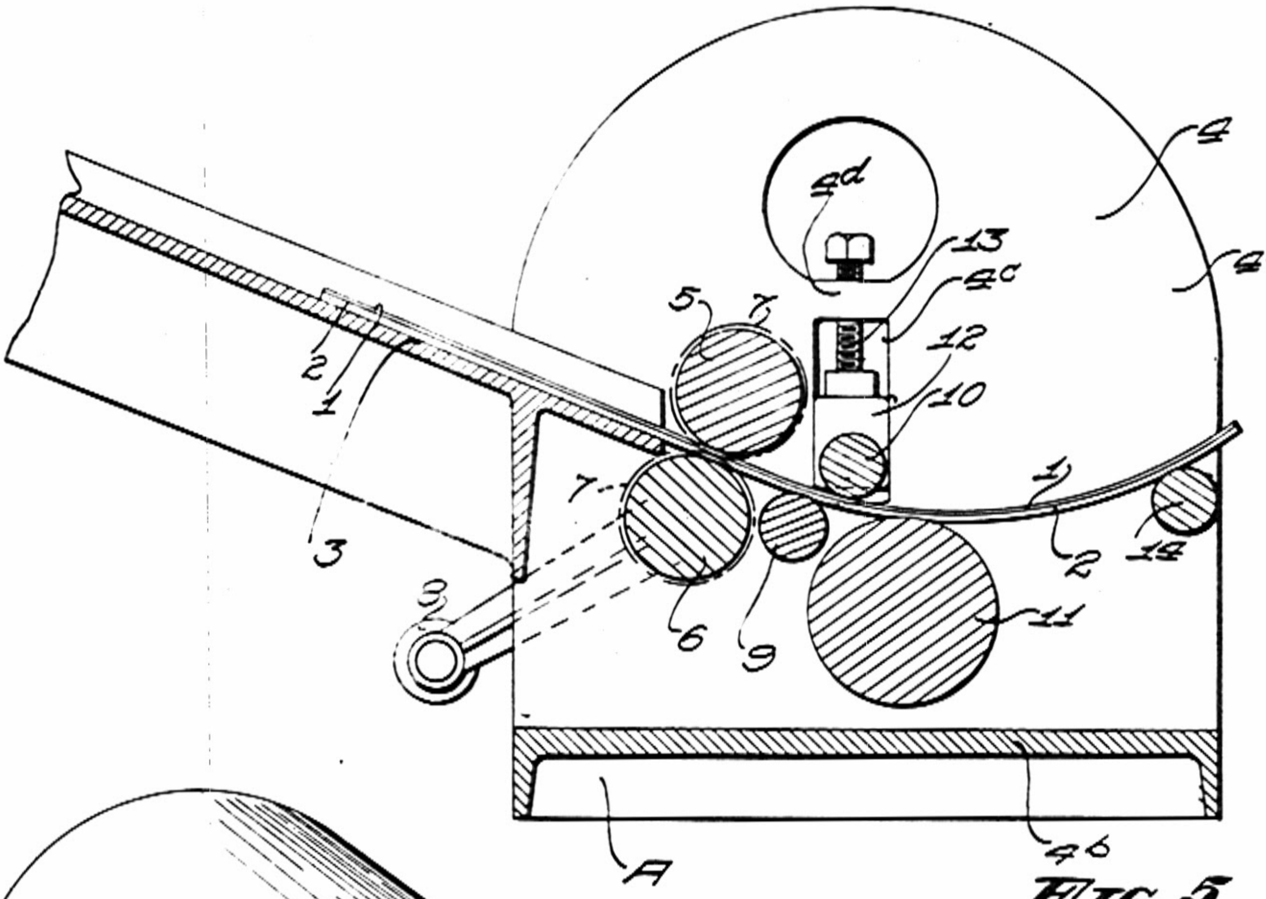


FIG. 5

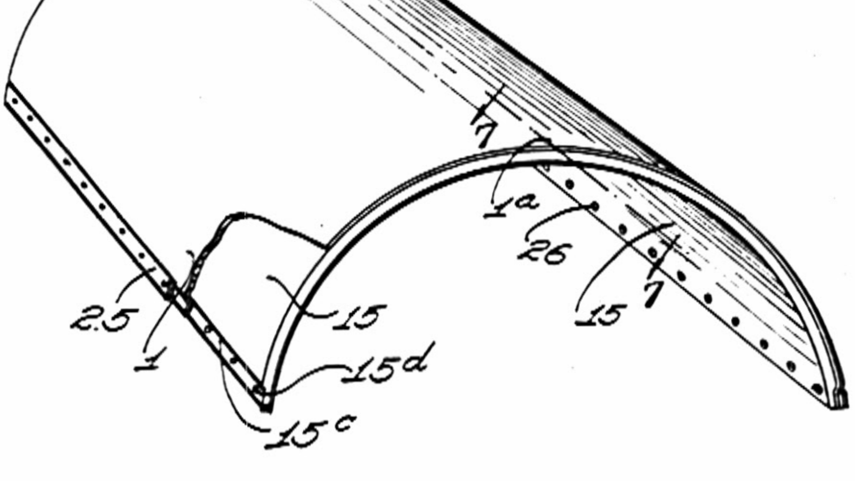


FIG. 6

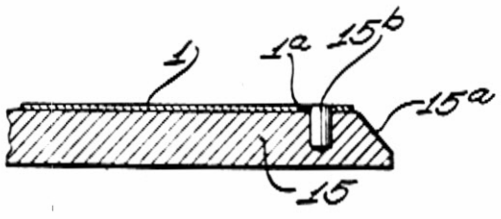


FIG. 7

INVENTOR.
GEORGE SHIRLEY UPSHAW
BY A. B. Bowman
ATTORNEY

UNITED STATES PATENT OFFICE

1,976,640

METHOD OF PREPARING ORIGINAL ENGRAVED PLATES FOR PRINTING ON ROTARY PRESSES

George Shirley Upshaw, San Diego, Calif.

Application October 27, 1930, Serial No. 491,422

7 Claims. (Cl. 101—375)

My invention relates to a method of preparing original engraved plates for printing on rotary presses, and the objects of my invention are:

First, to provide a method of this nature which is particularly adapted for preparing original engraved plates used in printing art, pictorial, or magazine sections of a newspaper;

Second, to provide a method of this nature which eliminates the use of mats and stereotype casts for pictorial printing by preparing the engraved plates themselves for use on the rotary press;

Third, to provide a method of this nature which eliminates the loss of detail occasioned by the use of mats and stereotype casts due to the transferring and re-transferring of the images;

Fourth, to provide a method of this nature which enables the use of a much finer screen in the process of producing the engraved plate than is possible when these plates are to be used in the conventional manner upon rotary presses;

Fifth, to provide a method of this nature which makes possible on rotary presses the fine art effects now obtainable only upon flat bed presses, thereby greatly reducing the time and labor required to print the pictorial sections of a newspaper;

Sixth, to provide a method of this nature which is adapted for use in conjunction with all rotary press work as well as newspaper work;

Seventh, to provide a method of this class which makes possible the printing of pictorial sections in several colors; and

Eighth, to provide on the whole a method of preparing original engraved plates, which is particularly simple and economical of execution, and which on the whole greatly simplifies pictorial printing.

With these and other objects in view as will appear hereinafter, my invention consists of certain novel features of construction, combination and arrangement of parts and portions as will be hereinafter described in detail and particularly set forth in the appended claims, reference being had to the accompanying drawings and to the characters of reference thereon, which form a part of this application, in which:

Figure 1 is a fragmentary transverse sectional view of the clamp press, one of the devices used in preparing the original engraved plates by my method; Fig. 2 is a fragmentary sectional view thereof, through 2—2 of Fig. 1; Fig. 3 is an enlarged detailed fragmentary sectional view, showing in detail the manner of securing the engraved plate to its base; Fig. 4 is a sectional view through an adapter member used in conjunction with the printing with the clamp press; Fig. 5 is a fragmentary transverse sectional view of the bending machine used in preparing engraved plates; Fig. 6 is a perspective view of the engraved plate as it appears when ready for installation upon the rotary press; and Fig. 7 is an enlarged fragmentary sectional view through 7—7 of Fig. 6.

Similar characters of reference refer to similar parts and portions throughout the several views of the drawings.

Engraved plate 1, blanket 2, base 15, pad 21, locking bars 25, and screws 26 constitute the principal parts and portions of my printing device; bending machine A, including: table 3, framework 4, feed rollers 5 and 6, gears 7, handle means 8, fixed minor roller 9, movable minor roller 10, major roller 11, travelers 12, screw members 13, and guide roller 14; clamp press B, including: bed 16, U-frames 17, cross frame 18, screw member 19, movable jaw 20, crimping bars 22, screw members 23, and adapter 25, constitute the principal parts and portions of my means for preparing engraved plates for rotary presses.

Heretofore, in order to adapt pictorial matter to the rotary press, it has been necessary to take an impression from a flat engraved plate by means of a mat which is at first of a plastic nature. In order to use the mat, it has been necessary to employ a coarse screen in producing the engraved plate. In transferring the image to the mat, a relatively large per cent of the detail is lost. After the impression is made, the mat is bent and treated for a considerable time to harden it. Then, from the mat a stereotyped cast is made, again causing a loss of considerable detail.

With my process, the mat and stereotyped cast are entirely eliminated, the engraving plate itself being used on the rotary press.

The engraved plate, designated 1, is produced in the manner used in producing engraving plates for flat bed presses, and is made approximately the size of the stereotype casts formerly used. At each end of the plate there is provided a blank strip or marginal portion 1*b* extending beyond the printing line. At either side of the plates, preferably centered between the ends, is a small perforation 1*a*.

The first machine used upon the engraved plate is a bender. The engraved plate is placed face down upon a blanket 2, preferably of rubber, so as to protect the engraved surface. The engraved plate and blanket are placed on the table 3 of the bending machine, designated A.

The bending machine includes a framework 4, having upright end members 4*a*, and a base member 4*b*. The table 3 slopes downwardly towards the frame and extends between the upright end members. Adjacent the lower end of the table, a pair of feed rollers 5 and 6 are provided, which extend between the ends 4*a* of the frame. The feed rollers 5 and 6 are connected together on the outside of the end members 4*a* by gears 7. A crank means 8 is provided for rotation of the feed rollers. The rollers are spaced apart a distance slightly less than the normal combined thickness of the blanket and engraved plates, and are located in such a manner with respect to the table 3, that with the engraved plate and blanket lying flat on the table, they may be guided accurately between the feed rollers.

Beyond the feed rollers is a fixed minor bending roller 9 and a shiftable minor bending roller 10. The minor rollers 9 and 10 are arranged above and below, respectively, of the line of travel of the engraved plate 1 and its blanket 2. Beyond the minor rollers 9 and 10 is a major roller 11, of considerably greater diameter. The point of engagement of the upper minor roller 10 is between the points of engagement of the minor roller 9 and major rollers 11.

The minor roller 10 is supported at its end by traveler members 12, which operate in a slot 4*c* provided in the end members 4*a* of the bending machine. Each traveler member 12 is provided with a screw member 13, which extends through a web 4*b* above the slot 4*c*. The shiftable minor roller 10 is adjusted until the three bending rollers give the engraved plate issuing therefrom exactly the desired curvature.

It will be noted that the points of contact of the bending rollers are particularly close together; in addition, the use of a major roller, which is considerably larger than the minor rollers 9 and 10, causes the engraved plate to strike the major roller at a particularly acute angle with the underlying surface, so that the plate is gradually deflected to the desired curvature. Furthermore, the blanket, being slightly yieldable, prevents the bending rollers from creating localized bending stresses that would cause uneven bending of the engraved plate.

Beyond the bending rollers 9, 10, and 11, there is provided a guide roller 14, which supports the bent engraved plate as it issues from the bending rollers. After bending the engraved plate to the desired curvature, it is placed upon a base member 15. The base member 15 is slightly less than semi-cylindrical, and has substantially the size of a stereotype cast. The arcuate ends 15*a* of the base member 15 are beveled, as shown in Fig. 7, similar to the ends of stereotype casts, so as to enable the mounting of the base member on the cylinder of a conventional rotary press. The outer periphery of the base member 15 conforms to the curvature of the inner periphery of the engraved plate when said plate is bent to the proper curvature.

Centered between the straight ends of the base member and adjacent the curved ends thereof, is a pair of pins 15*b*, which register with perforations 1*a* provided in the engraved plate. The perforations 1*a* are preferably not formed until after the engraved plate is bent, a center punch mark only being made before bending the plate.

After placing the engraved plate upon its base, these two members are positioned in the clamp press, designated B. The clamp press B comprises a bed 16 having a semicylindrical central portion or fixed clamp jaw 16*a*, with horizontally extending marginal portions 16*b* along its sides. At each end of the bed there is provided an upwardly extending U-frame 17, the legs of which are secured to the ends of the marginal portions 16*b*.

A cross member 18 connects the two U-frames at their upper portions. Vertically disposed and centered in the cross member 18, is a screw member 19, the lower end of which is attached by a ball and socket joint 19*a* to a movable clamp jaw 20.

The movable clamp jaw 20 is slightly less than semicylindrical. The under surface of the movable clamp jaw 20 is so curved that there is a space of constant distance between it and the fixed clamp jaw when the two members are spaced apart a distance equal to the thickness of the base member 15 plus the thickness of the engraved plate 2, and plus the thickness of a protecting pad 21 placed thereon.

The end portions of the movable clamp jaw 20 are provided with outwardly extending arms 20*a* at the end of which are rollers 20*b*. Each leg of each U-frame 17 is provided with a pair of guide bosses 17*a*, between which fit the corresponding rollers 20*b*.

The base of each leg of each U-frame 17 is provided with a horizontally disposed guide channel 17*b*. Extending between the opposed legs of the two U-frames 17, is a crimping bar 22, the ends of which are guided by the channels 17*b*. Attached to each crimping bar 22, is a screw member 23, which extends through an internally threaded sleeve 16*c* attached to the marginal portion 16*b* of the bed 16. The outer end of each screw member 23 is provided with a hand wheel 23.

Along the straight end of the base member 15, said base member is reduced in thickness, forming marginal depressed portions 15*c*. These depressed portions are opposite the ends of the crimping bar 22. The marginal portions of the engraved plates beyond the printing line overhang the depressed portions 15*c*.

After placing the engraved plate 1 upon its base 15 and then placing the pad 21 upon the outer or engraved surface of the engraved plates, these three members are positioned on the fixed jaw 16*a*, as shown in Fig. 1. The movable jaw is then shifted downwardly until it is pressing with considerable force against the pad 21, holding the engraved plate 1 firmly upon the base member 15. When thus held, the crimping bars 22 are moved inwardly so as to crimp the marginal portions 1*b* of the engraved plate into the depressed marginal portions 15*c*.

Provided in the fixed jaw 16*a*, opposite the ends of the crimping bar, are a plurality of holes 16*d*. Opposite these holes the marginal portions 15*c* of the base member are provided with countersunk openings 15*d*, the countersunk ends thereof being on the inner periphery of the base member. While the engraved plate and its base member are held by the clamp jaw 20 and crimping bars 22, holes are bored through the marginal portions 1*b* of the engraved plates.

As the base member may be used many times, an adapter 24 is provided which fits in the holes 16*c*, which holds a drill in alinement with the openings 15*d* provided in the base member, so as to prevent enlarging thereof.

After boring holes in the marginal portions 1*b* of the engraved plate, the crimping bars are backed away therefrom, and a securing bar 25 is placed along said marginal portions. The securing bar 25 is provided with a plurality of threaded holes therein, which aline with the holes 15*d* and those bored in the engraving plate.

Screws 26 are then inserted through the openings 16*d* and screwed into the locking bar 25. The base member and engraved plates are then removed from the clamping press and placed on the cylinder of the printing press in the same manner as stereotyped casts.

The heads of the screws bear against the cylinder of the printing press and cannot work out and cause damage. The locking bars 25 are common to a plurality of the screws, since these members cannot work loose.

My method of preparing engraved plates for use on cylindrical presses consists in trimming the plate to the desired size, and providing marginal portions along each end beyond the printing line, then placing a blanket over the engraved surface, then inserting the blanket and engraved plate into a bending machine adapted to give the desired curvature to the engraved plates; then placing the engraved plate upon a base so as to bring the surface to the desired height; then placing the engraved plate and base in a clamp press and covering the engraved surface with a pad, and clamping the engraved plate and base; then pressing the free marginal portions of the engraved plate to corresponding pressed portions of the base; then securing the base and engraved plate at this marginal portion by inserting screws from the inside outwardly through said base into a locking bar common to each straight side of the engraving plate; and then positioning the engraved plate and its base upon the cylindrical press.

Though I have shown and described a particular means and method of preparing original engraved plates for rotary presses, I do not wish to be limited to this particular means and method, but desire to include in the scope of my invention the means and method substantially as set forth in the appended claims.

Having thus described my invention, what I claim as new and desire to secure by Letters Patent is:

1. A method of preparing original engraved plates for rotary printing presses, consisting in rolling a plate from edge to edge to form an arc, then placing said plate upon a correspondingly curved base, then clamping the same thereon and then interlocking said base and plate together by their straight sides.

2. A method of preparing original engraved plates for rotary presses, consisting in covering the printing side of a plate with a yieldable blanket, then rolling said plate from edge to edge while so covered to form an arc, and then securing said plate upon a correspondingly curved rigid base member while maintaining said plate substantially free of tensional stresses.

3. A method of preparing original engraved plates for rotary presses, consisting in covering the printing side of a plate with a yieldable blanket, then bending said plate in an arc while so covered, then placing said plate upon a correspondingly curved rigid base member, then depressing the straight marginal portions of said plate below the printing surface thereof, then placing locking bars in said depressed portions, and then inserting means interlockable with said locking bar from the inside outwardly through said base.

4. A method of producing original engraved plates for rotary presses consisting in covering the printing side of a plate with a yieldable blanket, then rolling said plate from edge to edge while so covered to form an arc, then placing said plate upon a correspondingly curved base, then clamping the same thereon, then depressing the straight marginal portions of said plate below the printing surface thereof, then locking said plate and bases together at the depressed portions at their edges.

5. A method of producing original engraved plates for rotary presses consisting in covering the printing side of a plate with a yieldable blanket, then rolling said plate from edge to edge while so covered to form an arc, then placing said plate upon a correspondingly curved base, then clamping the same thereon, then depressing the straight marginal portions of said plate below the printing surface thereof, then placing locking bars in said depressed portions, and then inserting means interlockable with said locking bars from the inside outwardly through said base.

6. A method of preparing original engraved plates for rotary printing presses consisting in, rolling a plate from edge to edge to form an arc, then placing said plate upon a correspondingly curved base, then clamping the same thereon in a manner to substantially avoid tensional stresses, and then interlocking said plate and base together by their straight sides.

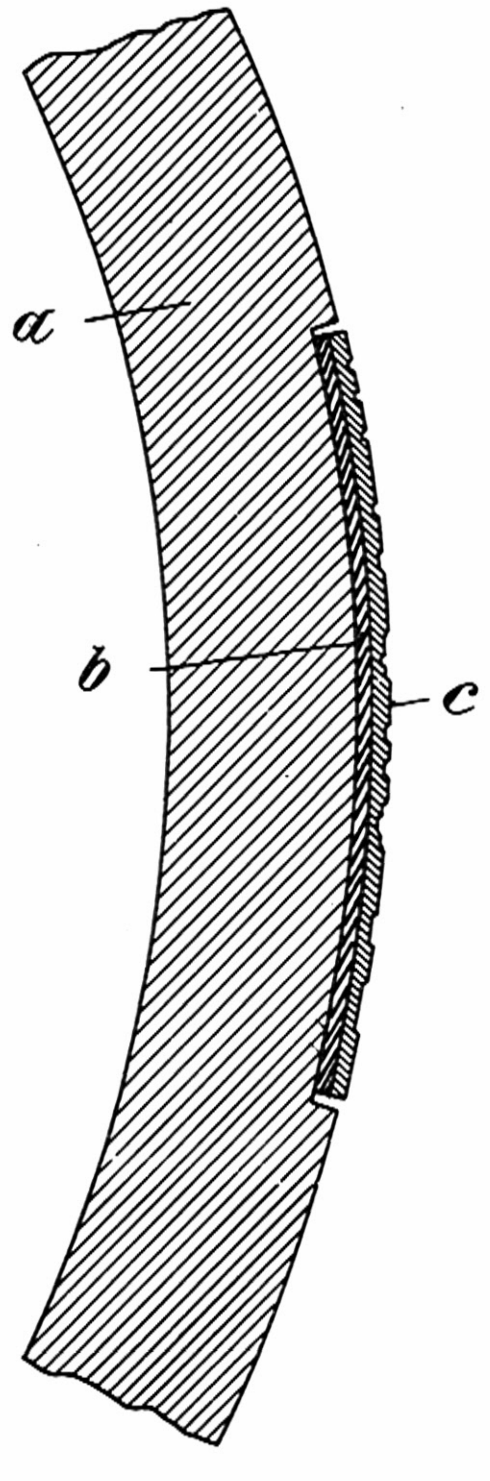
7. A method of producing original engraved plates for rotary presses consisting in, covering the printing side of a plate with a yieldable blanket, then rolling the plate from edge to edge while so covered to form an arc, then placing said plate upon a correspondingly curved base, then clamping the same thereon in a manner to substantially avoid tensional stresses, then depressing the straight marginal portions of said plate below the printing surface thereof, then locking said plate and bases together at the depressed portions at their edges.

GEORGE SHIRLEY UPSHAW.

Oct. 27, 1931. H. BUSCHMANN 1,829,085

PRINTING PLATE

Filed June 24, 1929



Inventor:

Hans Buschmann

Patented Oct. 27, 1931 **1,829,085**

UNITED STATES PATENT OFFICE

HANS BUSCHMANN, OF STETTIN, GERMANY

PRINTING PLATE

Application filed June 24, 1929, Serial No. 373,480, and in Germany July 21, 1928.

The invention relates to the mounting of metal printing plates in rotary relief printing machines and flat bed relief printing presses. According to the invention the printing member or cliché inserted in the holder or plate is secured within a few seconds by placing a thin rubber or gutta-percha sheet between these two parts and vulcanizing the same. Such sheets have a more uniform cross section than applied adhesive materials, and are rendered insensitive to water and other effects by the vulcanization.

The invention is illustrated by way of example on the accompanying drawing, which is a cross-sectional view of a portion of a printing cylinder showing the invention.

The printing cylinder *a* is provided with a suitable recess in its periphery in which the thin vulcanizable material, such as rubber or gutta-percha sheet *b*, is provided and having thereon the printing plate, cliché or stereotype plate *c*.

What I claim is:—

1. A device for securing a printing plate to a cylinder or flat bed of a printing machine, comprising a sheet of vulcanizable material interposed between the cylinder and the printing plate, said sheet being vulcanized to the cylinder or bed and the plate.

2. A device for securing a printing plate to a cylinder or flat bed of a printing machine comprising a rubber sheet interposed between the cylinder and the printing plate, said sheet being vulcanized to the cylinder or bed and the plate.

3. A device for securing a printing plate to a cylinder or flat bed of a printing machine comprising a gutta-percha sheet interposed between the cylinder and the printing plate, said sheet being vulcanized to the cylinder or bed and the plate.

4. The method of securing metal printing plates in rotary relief printing machines and flat bed relief printing presses, which consists in interposing a thin sheet of material between the cylinder or flat bed of the printing machine and the plate and vulcanizing the material to the cylinder or bed and the plate.

HANS BUSCHMANN.

102

Sept. 3, 1940. C. J. ROHLAND 2,213,568

PRINTING PLATE

Filed April 2, 1937

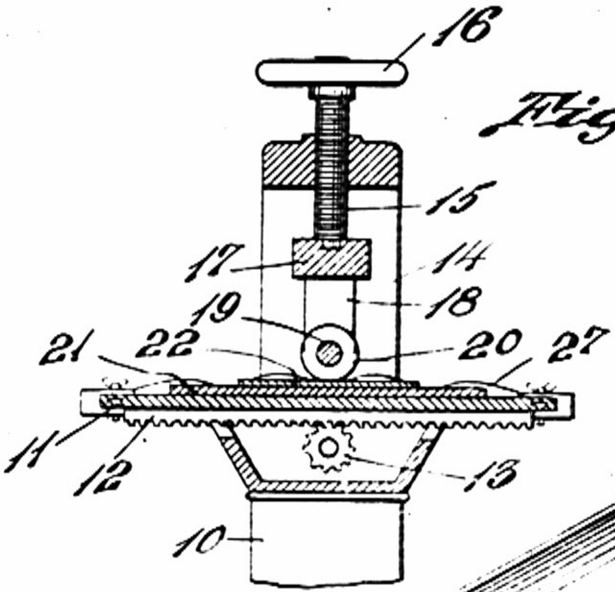


Fig. 1.

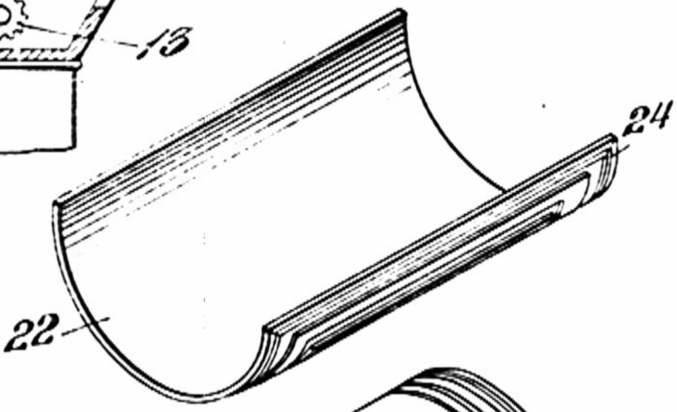


Fig. 3.

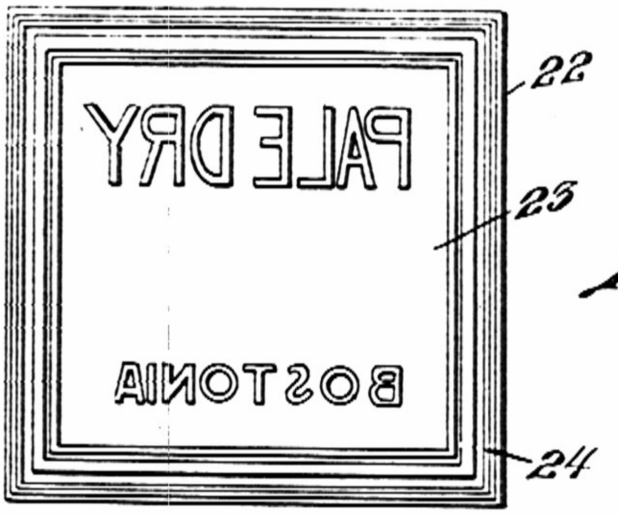


Fig. 2.

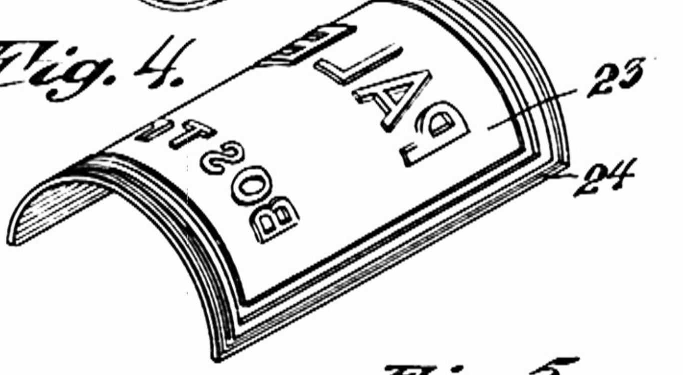


Fig. 4.

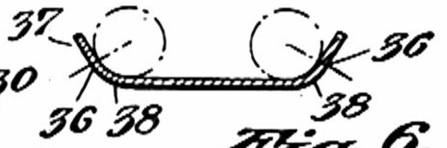


Fig. 5.

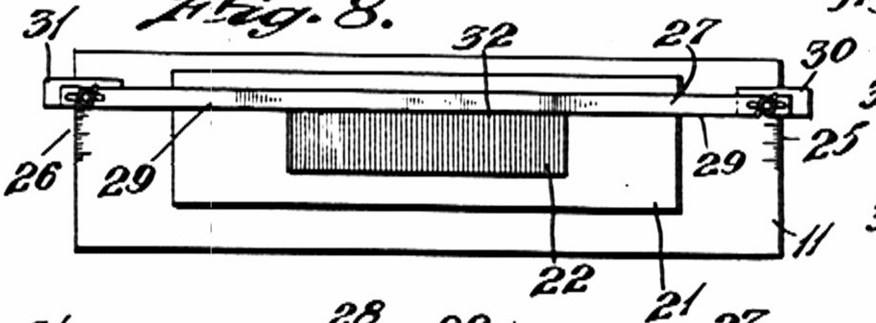


Fig. 8.

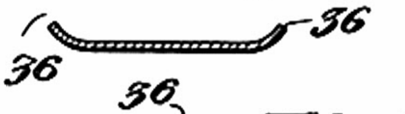


Fig. 6.

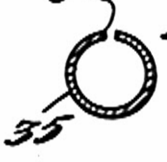


Fig. 7.

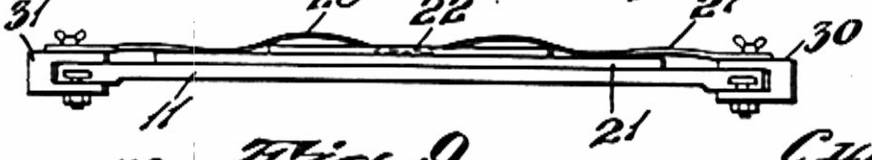


Fig. 9.

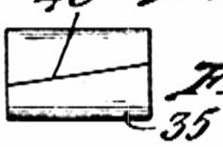


Fig. 10.

INVENTOR.
Curt J. Rohland
BY Barlow & Barlow
ATTORNEYS.

Patented Sept. 3, 1940 **2,213,568**

UNITED STATES PATENT OFFICE

2,213,568

PRINTING PLATE

Curt J. Rohland, Seekonk, Mass., assignor to Paul-Rohland, Inc., a corporation of Rhode Island

Application April 2, 1937, Serial No. 134,562

8 Claims. (Cl. 101—401.2)

This invention relates to the formation of steel cylindrical or arcuate printing plates and has for one of its objects the provision of a curved surface in steel which has been etched in a flat plate prior to its curved formation.

Another object of the invention is the formation of a cutting edge while the plate is in flat form and then bending the plate into arcuate shape.

Another object of this invention is a method of supporting fine print lines or cutting edges during the curving or bending process of the steel plate, so that fine print lines which ordinarily would break or rupture under stresses or strains existent in bending or curving the surface will remain intact and supported against any such rupture, and thus will be permitted to be used where stresses are set up which are stronger in the bending of the plate to position than the ordinary strength of the print line.

Another object of the invention is the provision of a machine or apparatus in which the pressure may be progressively applied along different short sections of the plate for accomplishing bending.

Another object of the invention is an arrangement in the machine whereby the cutting line of the plate will be in a plane at a slight angle to the axis of the arc upon which it is bent, which is desirable for application to a plate having combined cutting, embossing and printing, arranged for fancy labels and belt production.

With these and other objects in view, the invention consists of certain novel features of construction, as will be more fully described, and particularly pointed out in the appended claims.

In the accompanying drawing:

Fig. 1 is a sectional view showing generally diagrammatically the relation of the parts and work in accomplishing this process;

Fig. 2 is a top plan view of the plate which has been etched and in flat form prior to bending;

Fig. 3 is a perspective view of the back of the plate after being curved;

Fig. 4 is a perspective view of the front of the plate after being bent to curved form;

Figs. 5, 6 and 7 are diagrammatical views showing the work in section illustrating steps necessary in forming a printing surface in a complete hoop or circle;

Fig. 8 is a top plan view of the table with the work mounted thereon; and

Fig. 9 is a side elevation of the same on a somewhat enlarged scale from that shown in Fig. 1.

Fig. 10 is an elevation of a completely cylindrical plate with angularly related abutted edges.

Printing cylinders of steel are now usually formed by engraving on the curved cylindrical steel surface, or in soft materials by molding. The engraving of the steel cylinder is one requiring great skill and the subject of the engraving is limited as to certain fine lines that may be performed. In the molding in the softer metal the plate wears out quickly and is good only for very short runs. Further cutting edges cannot be formed in such soft metal. Where curved surfaces have been heretofore used which could not be performed by engraving, copper plates have been etched and afterwards formed into curved form. The thickness of the copper was limited to about sixteen thousandths of an inch as a heavier gauge plate would buckle when strapped about a cylinder whose diameter was below three inches. Thus with such a thin plate hardly any embossing was possible and further the copper being a soft material did not stand up in use, rather wearing out very fast. Thus this difficulty was encountered in the use of etching where curved plates were used, which etching was necessary to obtain effects not possible by engraving or molding. Any attempts heretofore to etch and afterward bend a steel plate have been unsuccessful due to the stresses set up in the fine print lines which would become ruptured upon bending, and in order to provide an etched steel plate on the arc of a cylinder I have supported the fine lines in the etched surface by a soft backing, usually of thick rubber to form a cushion, while operating on the back of the plate to form it into a curved or arc shaped formation, whereby I support the fine print lines as the cylinder is bent and thus do not disturb or rupture these print lines, maintaining them in their proper true desired relation in the curved formation, and the following is a more detailed description of the present embodiment of this invention, illustrating the preferred means by which these advantageous results may be accomplished:

With reference to the drawing, I have illustrated in Fig. 1, somewhat diagrammatically, the base portion **10**, of an apparatus which has a table **11**, reciprocally mounted thereon, reciprocation of the table being afforded by means of a rack **12** on the under side thereof, meshing with the gear **13**, rotatably mounted on the base **10**.

The structure above the table consists of a standard **14** in which a threaded member **15** is mounted to be moved downwardly by some suitable rotative means such as a hand wheel 16. Swivelly attached to the lower end of the threaded member 15 is a block 17, having downwardly extending or fork shaped portions 18, to receive in the inverted U shaped recess 19 the trunnions of the forming roll or mantle 20.

A deep rubber cushion or anvil 21 is fixedly mounted upon the table 11 and supports the work plate 22 shown in Fig. 1 in flat condition. This plate 22 is of steel and is etched on one side to provide the desired design as 23 in Fig. 2, the same being carried out in a known manner while the plate is in flat formation. The work is also provided with cutting edges 24 for severing the paper as the printing occurs. It is found in the use of cutting edges on printing plates of this character that if the cutting edges are in a plane at right angles to the axis of the cylinder that they will cut into the resilient backing up mat for the work and rather quickly destroy the same, whereas, if this cutting is done at a slight angle to that of a perpendicular plane passing through the axis of a cylinder that the lines of cuts will be sufficiently staggered so that the mat will last a great deal longer.

In laying out the work it is essential that the work be properly aligned with reference to the axis of the plate when mounted upon the printing mandrel and in order that this slight angle may truly and accurately occur I have provided the plate 11 with indications 25 and 26 at either end of the table which are carefully laid out to precision with relation to the axis of the bending mandrel 20, and I provide a strip 27 of material which is resilient and has a somewhat wavy form with crest portions 28. The edge 29 of this strip is positioned to be engaged by the work 22, the cutting line of which is parallel to the edge of the work. The ends of this strip are secured in clamps 30 and 31 which may be set with relation to the markings 25 and 26 so that this strip may have a desired angle whereby the edge 32 of the work will abut the edge of this strip 29 which extends over or on top of the soft anvil or backing 21 so as to properly align the work with relation to the axis of the mandrel and position the cutting line at the desired angle. Although this strip 29 is somewhat wavy in one direction so as to present a greater edge engaging surface for thin work stock, it is not bendable or flexible in its other dimensions and accordingly serves to properly align the work. Further, by reason of its flexibility or resiliency it is capable of being curved about the mandrel as the work is bent and will properly conform to the desired shape of the work as pressure is applied.

This plate is laid with its etched surface against the rubber anvil 21, and pressure is applied to the plate through the roll or mantle 20. The etched surface is forced into the rubber anvil while the pressure tends to bend the plate about the roll 20, only on a somewhat greater arc than the arc of the roll 20. After bending is accomplished along the line of contact of the roll with the work, the table is moved so as to present a different portion or section of the work closely adjacent to that just bent by the roller 20, and the pressure will then cause a bending in this section and so on progressively the bending of the work takes place while supported in this deep rubber cushion or anvil 21, which gives support to the fine lines against the stresses set up so as to prevent the rupture of these lines. Where greater support is desired than is afforded by the rubber, an anvil of lead may be used and by its use thicker work plates may be bent.

In all cases the printing plate must have margins beyond the printing area at both sides and ends, the amount being dependent upon the diameter to be provided, but where the printing surface is to be a complete cylinder such as illustrated at 35 in Fig. 7, a greater amount of stock must be provided on the plate beyond the ends 36 of the drum cylinder. Such stock is designated 37, and the first operation in forming such a hoop or cylinder complete is to press the stock adjacent the ends so as to form the opposite ends curved as illustrated in Fig. 5, it requiring stock beyond the tip ends 36 in order to provide this curved formation for the finished product. After these ends are curved as at 38, the stock 37 beyond the printing surface is severed, leaving the ends 36 and the material in the shape shown in Fig. 6, after which the bending operation is completed as shown in Fig. 7 and its ends are so shaped as to truly abut for the completion of the design and to provide a complete cylinder. This abutting may take place on an angle to the axis if desired, as shown at 40 in Fig. 10, so that a doctor blade will not catch in the crevice. A slight touching up operation may be needed in some cases at the abutting ends.

To prevent distortions in bending I allow a margin of one-quarter of an inch or more on each side of the design, this materially holding the etched-away surface in true relation to the back of the plate. In other words, the thin places cannot buckle as the rubber cushion together with the marginal edges supports the bending precisely the same as if no etched-away surfaces existed.

Owing to the bending, the plate stretches in the curved direction, this will have to be considered in preparing the design. I have found that the thickness of the plate, the radius of the curve, and the material to be used are the essential considerations. Accordingly, the design is reduced .018 of an inch for each inch in point surface circumference, in length only. As an example, a design photographed and etched 13.318 inches in length will give a print cylinder of 4.317 diameter, or print line 13.562, which will be the final result and will print and repeat every 13.562 to register.

This aforesaid explanation applies particularly to the so-called letter press printing. The same plate construction applies to the "Rotogravure" work as well. The only difference is in the photographing and etching the plate for this "Rotogravure" purpose. Instead of the letters or designs being etched into the plate and the ink staying in the etched surfaces, the doctor plate wipes all surfaces clean of ink. The plate joint is fitted with a cylinder so that the doctor plate cannot drop in the crevice at any one point. If an angle abutment is not used this crevice is plugged with a bismuth solder or gum so that no ink remains in the splice. I no longer need to work with carbon tissue in etching. Also it is not necessary to make up costly copper laminated cylinders and to tear the design off or store the cylinder away, because the plate can now be prepared in one-sixteenth of an inch thickness in copper, steel or any other suitable material. The work can be photographed and etched in a flat condition and then formed or curved. The curving plate can be slipped on a holder which is a part of the press and the joint fixed as above described.

A pressure of a given amount may be applied to the rear surface of the work while traversing the work back and forth beneath the pressure roller 20 by engaging it progressively, as heretofore indicated, and so on until the desired arc has been provided, and then greater pressure may be applied. The pressure mandrel is on an arc of lesser radius than that caused to be formed in the work. For instance, if I wish to have a cylindrical arcuate plate of substantially three inches diameter the roll or mantle 20 would be of two and three-quarters inch diameter, if the cylinder be desired to be five inches the roll would be four and three-sixteenths inches in diameter, or in each case the roll about which the work is bent will be of a lesser diameter than the finished inside arc of the plate being operated upon. The figures above given being one set which have been found applicable to a certain hardness of printing plate which I have used.

The pressure applied will usually be hydraulic and will for ordinary printing plates of the dimensions given be in the neighborhood of five hundred pounds per square inch.

The foregoing description is directed solely towards the construction illustrated, but I desire it to be understood that I reserve the privilege of resorting to all the mechanical changes to which the device is susceptible, the invention being defined and limited only by the terms of the appended claims.

I claim:

1. The method of forming a printing cylinder comprising etching a steel plate while in flat form and then bending said plate into arcuate shape on a curvature extending from end to end in the finished plate by applying pressure on the back of the plate while the etched face is in contact with a material sufficiently soft to receive into its surface the relief portions of the etched face so as to support the print lines in many directions against rupture, and removing the pressure prior to relatively advancing a portion of the plate to the pressure applying means.

2. The method of forming a printing cylinder comprising etching a steel plate while in flat form and then bending said plate into arcuate shape in short sections on a curvature extending from end to end in the finished plate by applying pressure to the back of the plate intermittently while the etched face is in contact with a rubber cushion sufficiently soft so as to receive and support the print line in many directions against rupture.

3. The method of forming a printing cylinder comprising etching a steel plate while in flat form and then bending said plate into arcuate shape in short sections on a curvature extending from end to end in the finished plate by applying pressure to the back of the plate while the etched face is in contact with a lead anvil sufficiently soft so as to receive and support the print line in many directions against rupture.

4. The method of forming a printing cylinder comprising etching a steel plate while in flat form and then bending said plate into arcuate shape in short sections progressively on a curvature which will extend from end to end in the finished plate by applying pressure to the back of the plate while the etched face is in contact with a deep rubber cushion held upon a flat surface and acting as an anvil and sufficiently soft so as to receive and support the print line in many directions against rupture.

5. The method of forming a printing cylinder comprising etching a steel plate while in flat form and then bending said plate into arcuate shape on a curvature which will extend from end to end in the finished plate by applying pressure to the back of the plate while the etched face is in contact with a material sufficiently soft so as to receive and support the print line in many directions against rupture and advancing the work and its supporting material while relieved of pressure.

6. The method of forming a printing cylinder comprising etching a steel plate while in flat form to provide fine print lines therein and then bending said plate into arcuate shape on a curvature which will extend from end to end in the finished plate by applying pressure to the back of the plate intermittently while the etched face is in contact with a material sufficiently soft so as to receive and support the fine print lines in many directions against rupture.

7. The method of forming a printing cylinder comprising etching a steel plate while in flat form to provide print lines and cutting lines therein, then bending said plate into arcuate shape with the cuting lines in a plane passing through the axis of the formed arc at other than a right angle by applying pressure to the back of the plate intermittently while the etched face is in contact with a material sufficiently soft so as to receive and support the fine print lines in many directions against rupture.

8. The method of forming a printing cylinder comprising etching a steel plate while in flat form with waste stock beyond the ends of printing surface to provide print lines, then bending the plate adjacent the ends of the printing surface on a curvature substantially that of the finished printing cylinder, severing the stock beyond the curved portion and completing the bending of the plate into hoop form.

CURT J. ROHLAND.

PATENT SPECIFICATION

Convention Date (Czecho-Slovakia): Jan. 16, 1929. **329,588**

Application Date (in United Kingdom): Aug. 28, 1929. No. 26,237/29.

Complete Accepted: May 22, 1930.

COMPLETE SPECIFICATION.

Improvements in Printing Rollers or Printing Plates.

I, Frantisek Just, of Cerveny Kostelec, Czecho-Slovakia, Manufacturer, a Czecho-Slovakian citizen, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

Textile materials of all kinds and of any material, as well as paper, felt and similar materials made from vegetable or animal products, are printed with the aid of dyes through the medium of engraved or etched plates or rolls. The required pattern or picture is prepared in a known manner on each plate or roller.

According to the invention, these plates or rolls, made of any suitable material and engraved or etched according to known processes (or having a smooth surface devoid of engraved or etched patterns), are provided with apertures in which removable plates of any material are let in. When in position, these plates form a continuous surface with the outer face of the roll or main plate, the picture or pattern being engraved or etched on the said continuous surface. After use, these let-in plates may be replaced by other such plates. The apertures may be uniformly or irregularly distributed over the surface of the roll. The removable plates are inserted in these apertures either from the outside or from the inside; in the latter case, the apertures and the plates fitting therein are for preference widening conically and inwardly. The plates are made fast by the shaft when pushed in position. When the removable plates are let in from the outside, the means for securing them in position is a suitable cement and all gaps on the roll are filled by means of this cement. Any aperture not in use is occupied by a blank or smooth let-in plate. The method of proceeding just described is therefore a means of altering as desired the general configuration of the picture or pattern on the outer face of the roll.

These let-in plates may in turn be adapted to receive smaller removable plates, whereby the pattern or picture may be altered to a still greater extent. These smaller plates do the same duty and have the same features as the larger let-in plates which receive them.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. A printing roll or printing plate of suitable material for printing textiles, paper or similar materials, characterised by apertures receiving removable let-in plates provided with engraved or etched patterns to be printed, the said plates forming a continuous surface with the outer surface of the roll or plate.

2. A printing roll or printing plate according to Claim 1, characterised in that the removable let-in plates are provided with apertures receiving smaller let-in plates.

3. A method of printing fabrics, paper or similar materials, characterised by the employment of printing rolls or printing plates according to Claim 1 or 2.

Dated this 28th day of August, 1929.
FRANTISEK JUST,
per Boult, Wade & Tennant,
111/112, Hatton Garden, London, E.C. 1,
Chartered Patent Agents.

Redhill: Printed for His Majesty's Stationery Office, by Love & Malcomson, Ltd.—1930.
[*Price* 1/-]

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DIV. 1

U.G.FIG.____ CLASS____ SUB. CLASS

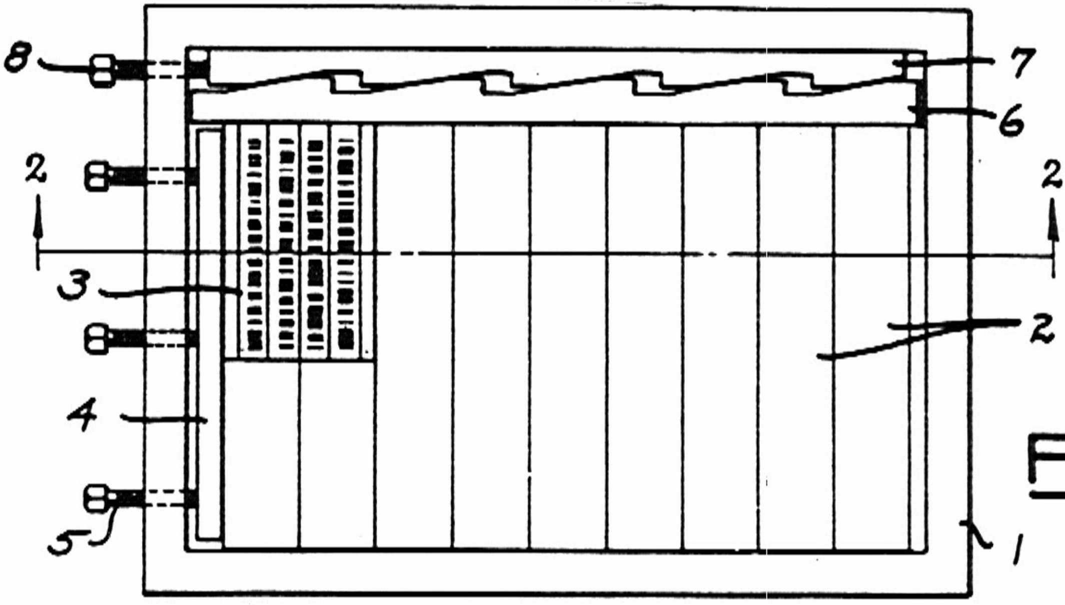

Fig. 1.

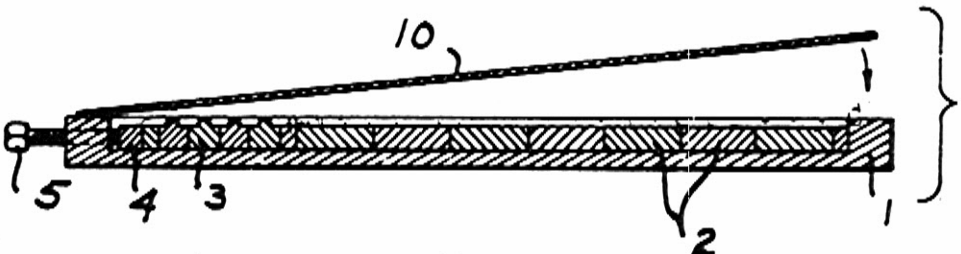

Fig. 2.

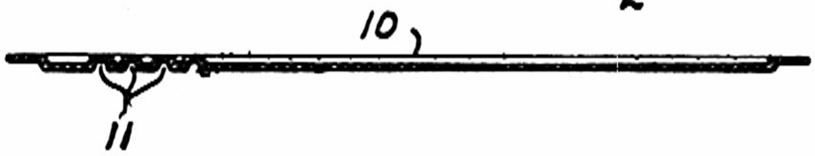

Fig. 3.

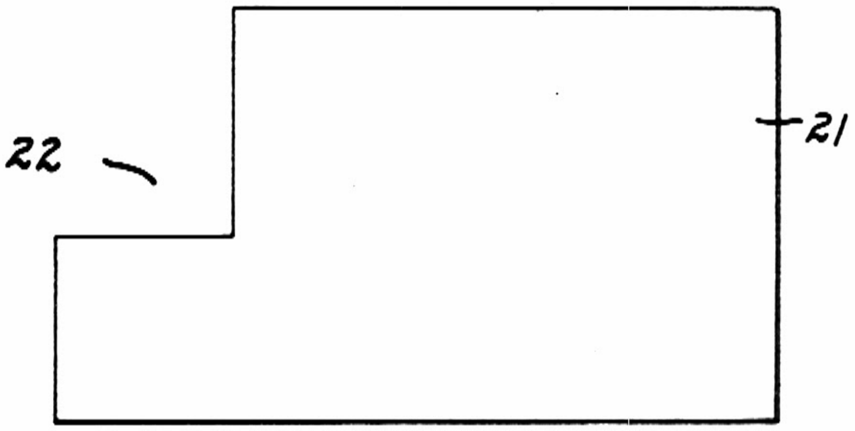

Fig. 4.

ARTHUR T. BLEASE
INVENTOR

BY Lester B. Clark
ATTORNEY.

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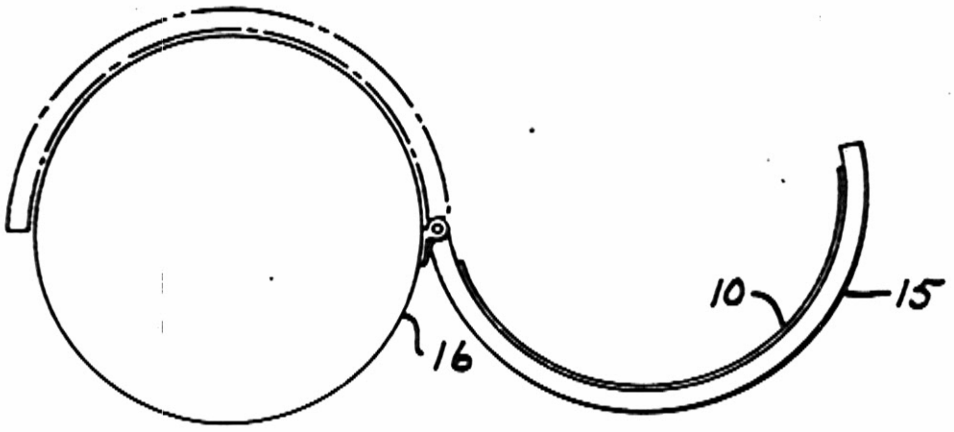

Fig. 5.

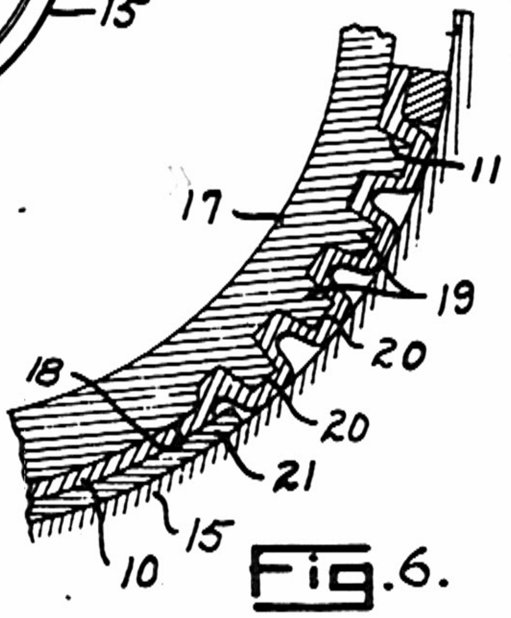

Fig. 6.

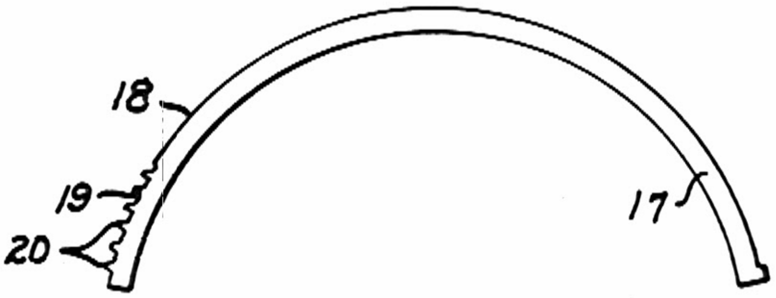

Fig. 7

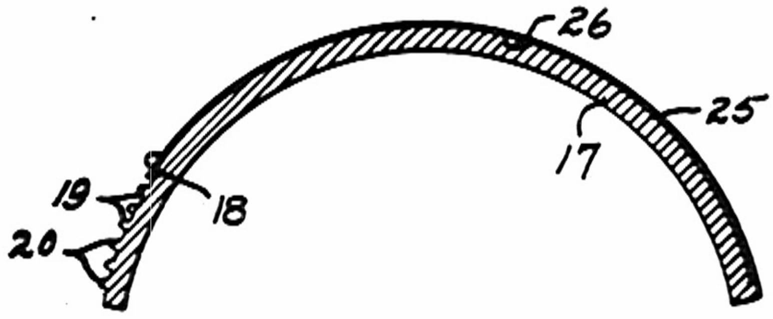

Fig. 8.

ARTHUR T. BLEASE
INVENTOR

BY Lester B. Clarke.

ATTORNEY.